Restauración, preservación, protección legal y promoción turística del patrimonio histórico de acceso restringido del Canal de Panamá

Antigua Planta Potabilizadora de Agua Clara - Edificio en abandono de 1910 próximo al Centro de Visitantes

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Resumen

Este libro presenta un estudio (hasta el 2022) sobre la antigua Planta Potabilizadora de Agua Clara, construida en 1910, hoy en abandono y bajo orden de demolición, pese a su valor histórico y ubicación estratégica cercana al Centro de Visitantes de Agua Clara.

Organizado en cinco capítulos, el texto comienza con una introducción que resalta la importancia de rescatar la memoria histórica canalera, analiza la situación actual del patrimonio bajo responsabilidad de la Autoridad del Canal de Panamá (ACP) y plantea preguntas clave, limitaciones, alcance, hipótesis y objetivos. Luego, se examinan los valores corporativos de la ACP y marco legal vigente para la protección del patrimonio, seguido por una mirada comparativa entre el Canal del ayer y hoy, contextualizando su evolución.

El capítulo central se dedica al análisis detallado de la Antigua Planta Potabilizadora: su ubicación, registros y documentos oficiales, fotografías entre 1910 y 1916, e imágenes de su estado hasta el 17 de marzo de 2022. El capítulo final presenta las conclusiones de la obra y propone recomendaciones concretas orientadas a evitar su demolición, y promover su restauración, protección legal y aprovechamiento turístico.

Como aporte adicional, el apéndice incluye un análisis del estatus (hasta 2022) de diez sitios patrimoniales de acceso restringido bajo administración de la ACP, cercanos al Centro de Visitantes de Agua Clara como lo son: Vagones franceses y Faro de Punta Toro (siglo XIX), Cementerio de Gatún (1904-1909), Antiguo poblado de Gatún (1907-1913), Planta Potabilizadora de Agua Clara (1910-1911) - Edificios 297-298, Barraca de trabajadores de la Nómina de Plata (1912-1913) - Edificio 34, Presa, vertedero e hidroeléctrica de Gatún (1907-1913), Grúa Hércules (1914) - Desguace iniciado en el año 2022, Escuela primaria de Gatún (1916) - Edificio 206, Templo Masónico - *Siebert Lodge* (1936) - Edificio 213, y la Iglesia Católica de Gatún (1937) - Edificio 147. Adicional, cinco ejemplos cercanos al Centro de Visitantes de Miraflores.

Esta obra invita a reflexionar sobre el rol de la ACP en la conservación del patrimonio histórico canalero y rol, necesidad, responsabilidad e importancia de la Unidad de Memoria Histórica del Canal de Panamá. Hace un llamado urgente al Gobierno del presidente José Raúl Mulino Quintero (2024-2029) para que, a través de sus ministerios y autoridades del Canal, Cultura, Turismo, Educación y otros logren preservar, restaurar, proteger legalmente y promocionar turísticamente estos espacios históricos, antes de que desaparezcan para siempre.

Derechos de autor

Dedicatoria

A Franklin Guardia, por compartir sus conocimientos y ser mi guía (2022) en el descubrimiento de una realidad que desconocía sobre un tema que me apasiona. Gracias a su apoyo, conocí, recorrí y fotografié decenas de sitios, edificaciones, áreas, estructuras, maquinarias, documentos, herramientas, registros y equipos históricos del Canal de Panamá en abandono o con acceso restringido, revelando en esta publicación solo una muestra de este invaluable pero olvidado legado.

Agradecimiento

A Isaac Carranza[1], Xiomara Jaén, Franklin Guardia[2] y Ernesto Holder[3]. Mi más sincero reconocimiento por su apoyo inquebrantable a lo largo de estos años en el esfuerzo por recuperar, restaurar, proteger y promover la memoria cultural y el patrimonio histórico del Canal de Panamá[4]. Su colaboración pasada, presente y futura es fundamental para mantener viva esta causa y asegurar que las generaciones, presentes y futuras, valoren y protejan este invaluable legado canalero.

[1] Fotografías del Ayer y Hoy (14 de abril de 2022) del poblado de Gatún por Isaac Carranza (ver Anexo).

[2] Sitios de interés histórico en Gatún (30 de marzo de 2022) y poblados lado oeste del Canal (5 de abril de 2022) por Franklin Guardia (ver Anexo).

[3] Iniciativas, proyectos, propuestas, estrategias, propósitos, objetivos, emprendimientos, programas, acciones, esquemas, planes y gestiones por Ernesto Holder y Jaime Massot; coordinadores de la Memoria Histórica del Canal de Panamá del 1 de octubre de 2020 al 30 de junio de 2022.

[4] https://pancanal.com/wp-content/uploads/2021/09/Compendio-Uso-de-Bienes.pdf

Advertencia

Debido a otros proyectos editoriales, esta publicación no ha sido posible hasta este año 2025. Desde la conclusión de esta investigación hace tres años (2022), es posible que la condición de ciertos sitios, vistas, edificios, equipos, maquinarias, herramientas o monumentos hayan cambiado (mejorado, empeorado o sin cambios). Se recomienda revisar bibliografía actualizada o solicitar visitas (inspecciones) presenciales directamente al Canal de Panamá.

Cada capítulo fue redactado con el propósito de ofrecer una perspectiva basada en investigaciones, imágenes y narraciones históricas. Este libro no pretende ser un documento ni bibliografía oficial, mucho menos una versión exacta o científicamente precisa de los hechos. Algunos eventos han sido reconstruidos a partir de registros disponibles y podrían diferir de otras interpretaciones, es decir, pueden variar según la fuente consultada. Cualquier error, inexactitud u omisión es involuntaria y responsabilidad exclusiva del autor.

Algunos temas abordados son sensibles para ciertos lectores, ya que tratan episodios complejos de nuestra historia. Se ha procurado narrarlos con el mayor respeto y fidelidad a los hechos, no con el propósito de afectar sensibilidades, sino de reforzar la comprensión y el valor de nuestro patrimonio histórico-cultural panameño.

El apéndice incluye ejemplos patrimoniales cuyo acceso está prohibido por la ACP (por razones de seguridad u otras) a menos que se tramite un permiso especial. Estos ejemplos se dividieron en dos grupos accesibles por carro desde los centros de visitantes de Agua Clara (lado Atlántico) y Miraflores (lado Pacífico). Se exhibe una evaluación subjetiva según su estado en 2022, utilizando las luces de un semáforo como referencia: verde (bien), amarillo (regular) y rojo (mal). Debido al extenso patrimonio histórico canalero de acceso restringido, se limitó a solo 10 ejemplos cercanos al Centro de Visitantes de Agua Clara y otros cinco del lado Pacífico cercanos y accesibles desde el Centro de Visitantes de Miraflores.

Es importante mencionar que poco antes de la publicación final del presente estudio, en abril de 2025, se inauguró el mirador turístico de Gatún[5], por lo tanto, esta ubicación del lado Atlántico debe añadirse al circuito del Centro de Visitantes de Agua Clara[6].

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[5] https://pancanal.com/canal-de-panama-inaugura-mirador-turistico-de-gatun/

[6] https://visitcanaldepanama.com/es/sitios-de-interes/centro-de-visitantes-de-agua-clara/

Prefacio

El Canal de Panamá, símbolo mundial de ingeniería, no solo une océanos, sino que entrelaza historias y culturas. A pesar de su grandeza, numerosos elementos históricos y estructuras asociadas han quedado en abandono y su acceso está restringido. Este libro surge tras 42 años de experiencia en el Canal, donde he sido testigo del deterioro y la falta de atención hacia nuestro patrimonio canalero; desde antiguas locomotoras hasta poblados completos, cada rincón cuenta una historia invaluable que merece ser restaurada y protegida.

Esta obra busca resaltar la urgencia de conservar y aprovechar el potencial turístico y educativo de sitios como la antigua Planta Potabilizadora de Agua Clara (1910-1944). Su desarrollo no solo revitalizaría la economía local y fortalecería el sector turístico del Centro de Visitantes de Agua Clara, sino que también enriquecería la experiencia a nacionales y extranjeros al complementar la ingeniería del Canal con su legado histórico-cultural.

A pesar de avances desde la reversión del Canal a Panamá, persisten desafíos significativos en la gestión y preservación del patrimonio histórico canalero. Este libro documenta estas preocupaciones según registros e imágenes (hasta 2022) y aboga por un manejo más inclusivo y sostenible de estos bienes históricos, esenciales para nuestra identidad nacional.

Restaurar y proteger estos sitios no solo protege nuestra conexión con el pasado, sino que también promueve el desarrollo cultural y turístico. Es una llamada a la acción al Canal de Panamá y autoridades nacionales para asegurar que este legado no desaparezca en el abandono, sino que perdure como testimonio de nuestra historia y contribución global.

Como país, poseemos la responsabilidad de que esta herencia cultural no caiga en el olvido. El Canal no es solo un símbolo de conexión entre océanos, sino también un puente entre el pasado, presente y futuro. Este libro es mi humilde pero apasionada contribución con la esperanza de que usted, al leerlo, se le encienda una chispa de interés por preservar y conocer el patrimonio aquí presentado apenas la ACP flexibilice las restricciones de acceso.

Tenemos por delante la gran oportunidad de aprender de nuestro pasado y construir un futuro conectado a las raíces canaleras de Panamá desde finales del siglo XIX hasta mediados del siglo XX. Espero que esta obra sirva como puente entre el ayer, hoy y mañana (antes de que sea demasiado tarde) y que estas páginas inspiren interés y compromiso por la preservación del patrimonio en abandono del Canal de Panamá. Este esfuerzo asegura que las generaciones futuras puedan conectarse con nuestra identidad histórica como nación.

Prólogo

El general Omar Torrijos Herrera [El General] y la doctora Reina Torres de Araúz [RTA] compartían una visión sobre la recuperación y preservación del patrimonio histórico-cultural del Canal de Panamá tras su reversión al país. Torrijos, convencido de que el Canal debía integrarse plenamente a la identidad nacional, veía en la labor de RTA un esfuerzo clave para garantizar que los panameños tuvieran acceso a su historia, sin restricciones ni exclusiones. Ambos coincidían en que la memoria canalera no debía quedar en la desidia ni ser administrada como un espacio ajeno al pueblo panameño.

Con el respaldo de Torrijos, RTA impulsó iniciativas para documentar, proteger y restaurar maquinaria y equipos históricos de la Zona del Canal, conscientes de que muchos de ellos podían caer en abandono o ser inaccesibles tras su transferencia a manos panameñas. El insistía en que los panameños pudiesen recorrer y conocer estos espacios históricos, como una forma de reafirmar nuestro derecho sobre el territorio recuperado.

El General también advertía sobre los riesgos de que, una vez en manos panameñas, la burocracia, el desinterés o la falta de voluntad política impidieran que el patrimonio del Canal estuviese al alcance de todos. En este sentido, RTA promovió proyectos para la creación de museos y centros culturales que garantizaran la preservación y divulgación de este legado, alineándose con la visión torrijista de que el Canal no solo debía ser operado con eficiencia, sino también servir como un símbolo de identidad y educación para el país.

Torrijos recalcaba que la historia del Canal debía contarse desde la perspectiva panameña y no solo desde la visión extranjera. En este punto, RTA jugó un papel fundamental al impulsar estudios y exposiciones que destacaban el papel de los trabajadores panameños y la influencia cultural de las comunidades que ayudaron a construir y operar la vía interoceánica. Ambos entendían que, sin un acceso real y abierto al patrimonio canalero, la historia nacional quedaría incompleta y fragmentada.

A pesar de sus esfuerzos, la realidad actual muestra que las preocupaciones de El General y RTA se han materializado. Numerosos sitios históricos, edificaciones, maquinaría, documentación, artículos, libros, herramientas, archivos, imágenes, videos, documentación, registros, etc. vinculados al Canal han sido destruidos o rematados, están en abandono y tienen restricciones de acceso. El desafío es convertir en realidad la visión de un Canal verdaderamente panameño, no solo en su administración, sino en la plena apropiación, acceso, conocimiento de su historia y cultura por parte de la población de Panamá y mundial.

Epígrafe[7]

"Yo no quiero entrar en la historia, quiero entrar en la Zona del Canal."

"No pedimos más, ni menos, que lo que es nuestro."

"El Canal de Panamá es del pueblo, no de una minoría privilegiada."

"No somos anti-norteamericanos. Somos pro-panameños."

"Recuperamos el Canal para las futuras generaciones, no para unos pocos."

"No más sangre de panameños por las bases."

"El Canal no debe ser el privilegio de una élite, sino la esperanza de una nación."

"La dignidad de un pueblo no se negocia."

"El Canal es la columna vertebral de la nación y su beneficio debe llegar a todos."

"Que las bases militares se conviertan en escuelas, hospitales y viviendas para nuestro pueblo."

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[7] General Omar Efraín Torrijos Herrera (Santiago de Veraguas, 13 de febrero de 1929 - Cerro Marta, 31 de julio de 1981 - República de Panamá).

Índice

I. Introducción

La riqueza histórica del Canal de Panamá trasciende su importancia como arteria clave del comercio mundial; sus alrededores albergan un valioso patrimonio compuesto por equipos, maquinaria, edificaciones y sitios históricos que narran la evolución de una de las obras de ingeniería más trascendentales del siglo XX. Este libro se adentra en la restauración, preservación, protección legal y promoción turística de estos tesoros, muchos de ellos en abandono y de acceso exclusivo (solo ACP) desde su reversión a Panamá, destacando especialmente aquellos próximos al Centro de Visitantes de Agua Clara y Miraflores.

Restaurar, preservar y promover el patrimonio histórico del Canal de Panamá es parte integral de la identidad cultural y nacional de la República de Panamá. Representa su historia, tradiciones y valores. Es un recordatorio tangible de nuestro nacimiento como nación a principios del siglo XX, la fallida construcción del Canal por los franceses a finales del siglo XIX, y el primer ferrocarril transcontinental del mundo construido entre 1850 y 1855. El patrimonio histórico es un importante atractivo turístico. Su restauración y preservación promueve la afluencia de turistas y genera ingresos adicionales al Canal de Panamá y a la economía local principalmente en las provincias de Colón y Panamá.

El patrimonio histórico es una fuente valiosa de conocimiento y educación para las generaciones actuales y futuras. A través de la preservación de equipos, edificios, maquinaría, documentos, archivos, fotos y otros bienes culturales, se puede aprender sobre la historia y cultura de Panamá y, en particular, su Canal. También tiene un valor simbólico y emocional para los antiguos pobladores de la Zona del Canal, personal militar de las extintas bases estadounidenses y panameños que trabajaron en estas áreas.

Este libro destaca la importancia de uno de estos tantos vestigios históricos, en abandono y acceso restringido, ubicado a solo unos minutos por automóvil del Centro de Visitantes de Agua Clara; la antigua Planta Potabilizadora de Agua Clara. A través de una recopilación detallada y visualmente enriquecida, se busca no solo sensibilizar al lector sobre su pésimo estado y posible demolición, sino también motivar acciones concretas para su rescate.

Al explorar esta pieza clave de nuestra historia canalera, de hace 115 años, nos conectamos con el periodo de construcción del canal a inicios del siglo XX. Adicional, poblados, edificaciones, estructuras, cementerios, maquinaria, equipo, herramientas y documentación histórica del Canal pueden transformarse en giras y destinos turísticos significativos; pilares para el desarrollo sostenible y cultural de la República de Panamá.

A. Importancia del pasado y presente

La construcción del Canal de Panamá fue una hazaña histórica que atrajo a personas de todo el mundo, creando un crisol cultural que aún hoy define gran parte de la diversidad panameña.[8] Conocer los detalles de ese pasado nos permite entender cómo nuestras costumbres y tradiciones fueron moldeadas por ese flujo de culturas y por las experiencias de quienes trabajaron y vivieron en torno a la Zona del Canal, enfrentando desafíos y condiciones de vida únicas.[9] El Canal es un motor de desarrollo económico y social que repercute no solo a nuestro país, sino a la economía global. Comprender este impacto es esencial para valorar cómo una obra de infraestructura puede cambiar el destino de una nación. Recordar su historia y la transformación que trajo al país nos ayuda a valorar las oportunidades actuales y a fomentar un sentido de orgullo y pertenencia. Saber cómo el Canal transformó el istmo de Panamá en una pieza clave para el comercio mundial nos permite apreciar las contribuciones que, a lo largo de más de un siglo, hemos realizado como país en beneficio de la economía global.[10]

La restauración y protección legal de sitios y edificios históricos del Canal de Panamá, entre otros, es una oportunidad para aprender de nuestro pasado y generar nuevas oportunidades de desarrollo, como el turismo cultural.[11] Estos lugares no son solo restos de otra época, sino valiosos testigos de una historia compartida que merece ser rescatada y preservada. La reconstrucción y promoción de estos sitios es una fuente de empleo y revitaliza las provincias de Panamá y Colón, además de ofrecer a las generaciones actuales y futuras una ventana única hacia un tiempo lejano que nos reconecte a nuestros ancestros y sus sacrificios.[12] Por lo tanto, no solo hay que recordar sino también publicar la memoria histórica panameña[13] resaltando lugares y eventos poco conocidos a nivel nacional o internacional.[14]

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[8] https://www.amazon.com/dp/1981937064

[9] https://www.amazon.com/dp/1517151910

[10] https://www.amazon.com/dp/1981424830

[11] https://www.amazon.com/dp/1075238676

[12] https://www.amazon.com/dp/B0DJDG62M5

[13] https://www.amazon.com/dp/B0DJLWYKQ5

[14] https://www.amazon.com/dp/B09Y9LW1S7

B. Situación e imágenes del patrimonio canalero

Por décadas y hasta el año 2022, existe una falta de interés por la restauración y conservación de la memoria y patrimonio histórico-cultural panameño por parte de la presidencia, ministros y directores de entidades públicas. Esto pudiese responder a múltiples factores. Uno de los principales es la escasa conciencia colectiva sobre su existencia y valor patrimonial.[15] Aunque Panamá tiene una rica herencia cultural, su narrativa histórica ha sido eclipsada en gran parte por temas económicos y geopolíticos, dejando a un lado la promoción de sus sitios históricos a excepción de algunos protegidos por Ley (en teoría) de acuerdo con el libro “Monumentos Históricos de Panamá: Según la enciclopedia libre Wikipedia”.[16]

Esto crea una brecha en la educación y sensibilización pública sobre la importancia de preservar estos espacios. Por otro lado, la falta de prioridad política también juega un papel clave. La restauración del patrimonio cultural requiere inversión considerable y un compromiso sostenido, algo que a menudo choca con las limitaciones presupuestarias y la falta de visión a largo plazo en los planes gubernamentales. En muchos casos, las promesas electorales y prioridades políticas se centran en proyectos de infraestructura más rentables o visibles en el corto plazo, dejando la conservación del patrimonio en un segundo plano.[17]

Escuelas, universidades y público en general también muestran poco interés debido a una desconexión generacional con los sitios históricos. La modernización y el avance tecnológico han relegado el valor del pasado a una simple curiosidad, en lugar de algo digno de ser preservado. La falta de programas educativos y turísticos atractivos que destaquen la relevancia del patrimonio histórico-cultural hace que la población no se identifique con ellos ni vea el beneficio de su conservación. El turismo en Panamá se ha enfocado más en sus recursos naturales y menos en su patrimonio histórico.[18] A diferencia de otros países que promocionan su patrimonio como motor turístico, las autoridades panameñas no han logrado posicionar (salvo algunas honrosas excepciones) nuestros sitios históricos como destinos atractivos, lo que reduce aún más el incentivo para su restauración y mantenimiento.

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[15] https://docs.panama.justia.com/federales/leyes/14-de-1982-may-14-1982.pdf

[16] https://www.amazon.com/dp/154311380X

[17] https://www.amazon.com/dp/1088863094

[18] https://www.amazon.com/dp/1542785235

La frase "una imagen vale más que mil palabras" cobra aquí su significado más profundo. Las fotos tienen el poder de transmitir, en un solo vistazo, la belleza de sitios que pocos conocen desde que el Canal revirtió a Panamá y restringió el acceso a muchas áreas bajo custodia de la ACP. Las fotos no necesitan más explicación para evocar en nosotros un sentimiento de pérdida y melancolía. Nos muestra el estado actual de manera inmediata, permitiéndonos ver y sentir las consecuencias del tiempo. Lo que en palabras requeriría una detallada explicación, las fotografías resumen una situación que comprendemos al instante.[19]

Cada imagen es una ventana a la realidad de lugares emblemáticos como el Corte Gaillard, Corozal Oeste, Amador,[20] el poblado de Gatún,[21] y antiguos fuertes militares en abandono. La captura fotográfica de estos sitios revela detalles que muchas veces escapan a la descripción verbal. Nos muestra con crudeza el paso del tiempo y la falta de interés a partir del 1 de octubre de 1979. Estos retratos permiten que cada persona interprete y reaccione a lo que ve, sin filtros ni interpretaciones previas, ofreciendo una percepción clara y real.

El poder de estos retratos radica también en su capacidad para evocar emociones profundas y despertar conciencia. Al no poder acceder a lugares que formaron parte importante de la historia canalera, es inevitable preguntarnos por qué han sido clausurados, demolidos y olvidados. Las imágenes despiertan nostalgia en quienes tuvimos la oportunidad de conocer estos sitios, mientras que otros (cuando los logren ver por primera vez) quedaran maravillados de estos tesoros que deben ser conocidos y promovidos turísticamente.[22]

Las fotos tienen un impacto profundo en la memoria de los antiguos habitantes de la "Zona del Canal" que vuelven a visitarlos. Sus recuerdos retienen las imágenes del pasado donde nacieron, crecieron o trabajaron. No poder acceder a estos sitios o verlos en abandono causa una gran decepción y tristeza; constatar su demolición es peor aún.

Las imágenes actúan como un recordatorio constante de que el olvido solo conduce a la pérdida irrecuperable de la memoria histórica que representan.[23]

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[19] https://www.amazon.com/dp/1720936919

[20] https://www.youtube.com/watch?v=BSx1xf2U5RQ&t=56s

[21] https://www.youtube.com/watch?v=nsTBHaA3SVo

[22] https://www.amazon.com/dp/B0DCJN2QWG

[23] https://www.amazon.com/dp/1541055365

C. Memoria histórica, ingresos y prioridades

El Canal de Panamá es una de las rutas comerciales más estratégicas del mundo, y su operación ha estado enfocada en maximizar la eficiencia y la rentabilidad de esta infraestructura vital para el comercio mundial. En el año fiscal de 2022, alcanzó ingresos brutos de $4,652 millones, destacando su capacidad de generar recursos a través del tránsito de embarcaciones. Sin embargo, este enfoque financiero tiene una clara repercusión en la atención hacia otros aspectos menos rentables, como la memoria cultural y el patrimonio histórico que aún permanece en el área. En lugar de promover mínimamente su conservación, los recursos se han dirigido principalmente al aumento anual de fondos al Gobierno de Panamá cuyo destino final es cuestionado por medios periodísticos locales.

La falta de interés en la memoria histórica se debe, en parte, a la visión netamente pragmática de la autoridad canalera, quien percibe este elemento como menos relevante para la operación y eficiencia económica. El presupuesto y los esfuerzos administrativos se concentran en mantener un flujo constante de tránsito de buques, ignorando en gran medida los sitios históricos que representan etapas cruciales de la historia panameña. Esta perspectiva relega el valor patrimonial a un segundo plano, impidiendo que se realicen restauraciones significativas y que el patrimonio histórico reciba la atención que merece.

Es posible que la falta de una vicepresidencia, división o sección independiente dedicado a la memoria histórica contribuya a esta situación. Al no contar con una entidad interna autónoma que priorice estos aspectos, aunque existen muchas unidades descoordinadas bajo diferentes vicepresidencias y prioridades, la ACP carece de mecanismos efectivos para gestionar adecuadamente la restauración y protección de edificaciones, equipos, estructuras, maquinaría y material histórico en abandono existente en, por ejemplo, Corozal Oeste, y las divisiones de Dragado (Gamboa) e Industrial (Colón). Ni hablar de parte de los poblados demolidos o edificaciones en total abandono luego de la Ampliación del Canal de Panamá.

Desde el Centro de Visitantes de Agua Clara y Miraflores, existen una infinidad de sitios, equipos y estructuras históricas de acceso restringido por la ACP (2022), que quizás más del 99% de la población panameña desconoce su historia a pesar de que el turismo genera grandes ingresos y crea nuevas oportunidades de empleo. Desafortunadamente, el Canal de Panamá parece no ver su atractivo económico como alternativa conexa a su operación principal de tránsito, mucho menos el Ministerio de Cultura o la Autoridad de Turismo de Panamá. La falta de visión del potencial cultural y su promoción turística por parte de la Junta Directiva del Canal de Panamá se traduce en el progresivo deterioro de estos sitios.

Otro factor relevante es la percepción de que la responsabilidad de preservar el patrimonio histórico debe recaer en instituciones, como el Ministerio de Cultura de Panamá, desviando así cualquier obligación del Canal de Panamá en este aspecto. Sin embargo, siendo estos sitios parte de la infraestructura del Canal y ubicados en áreas de su jurisdicción, sería lógico que se integrara una política de preservación patrimonial. El hecho de que el Canal de Panamá esté bajo un modelo administrativo que prioriza únicamente su operación dificulta aún más la asignación de fondos hacia la promoción de estos lugares históricos.

En muchos países, la combinación de una operación de infraestructura importante con la conservación de sitios históricos se considera una inversión en la identidad nacional, pero el Canal de Panamá, al no adoptar esta visión, deja escapar una oportunidad de desarrollar y fortalecer su vínculo con la población panameña. La falta de inversión en la restauración, conservación y desarrollo del patrimonio cultural afecta directamente la relación entre el Canal y el país, ya que ignora elementos que han sido claves para su historia y desarrollo.

Finalmente, aunque los ingresos generados por el Canal son altos, la inversión en la preservación histórica sigue siendo mínima (imperceptible). Este desinterés perpetúa la desaparición de edificaciones y equipo que reflejan la identidad y el patrimonio cultural panameño, lo cual tiene un efecto no solo en la historia del país, sino también en su potencial turístico. En resumen, la combinación de una perspectiva netamente económica, la falta de políticas internas de conservación, y la desatención a la historia y cultura local han llevado al Canal de Panamá a no priorizar la restauración de su patrimonio histórico en abandono.

D. Estado del problema

El deterioro, abandono y demolición de estructuras históricas, "disposición de bienes" (maquinaria y equipo), destrucción de recursos y registros documentales o desmejoramiento del patrimonio histórico del Canal de Panamá tiene graves consecuencias para la identidad cultural y memoria colectiva del país. Es una falta de atención por parte de la ACP y la República de Panamá a su pasado; muestra un menoscabo de valores y responsabilidades de acuerdo con las leyes nacionales, reglamentos de la ACP, y acuerdos internacionales.[24]

[24] COMPENDIO DE LEYES, DECRETOS Y REGULACIONES SOBRE PATRIMONIO HISTORICO DE LA REPUBLICA DE PANAMA - https://www.ucp.ac.pa/wp-content/uploads/2015/04/Compendio-de-patrimonio-historico.pdf

El patrimonio histórico es un recurso valioso que ofrece una visión única de la cultura, historia e identidad de un lugar o comunidad. A partir del año 2000, bajo el paraguas de un eficiente manejo y reducción de inventarios por directriz de la alta administración canalera, miles de documentos históricos originales fueron desechados o posteriormente destruidos. Adicional, por décadas y actualmente, equipos y maquinaría histórica se rematan por un irrisorio valor metálico a través del sistema de disposición de bienes o se deterioran en áreas próximas al mar (salitre). La destrucción del patrimonio histórico del Canal, por parte de sus propias autoridades (ACP), es irreversible. Su pérdida es una ofensa nacional e internacional.

Dado que las instituciones nacionales, internacionales o el Canal de Panamá no han mostrado mayor interés en el tema, esta publicación es un grito de ayuda a las siguientes organizaciones que se dedican a la protección del patrimonio histórico y cultural:

- UNESCO (Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura): A través de programas como el Patrimonio Mundial, identifica, protege y conserva sitios naturales y culturales de importancia excepcional en todo el mundo.
- ICOMOS (Consejo Internacional de Monumentos y Sitios): Esta organización no gubernamental colabora con la UNESCO y promueve la conservación, protección, uso y mejora de los monumentos y sitios del patrimonio cultural en todo el mundo.
- ICCROM (Centro Internacional de Estudios para la Conservación y Restauración de los Bienes Culturales): Ofrece formación y apoyo técnico a nivel mundial para la conservación del patrimonio cultural y fomenta la colaboración internacional.
- WMF (*World Monuments Fund*): Se dedica a la conservación de lugares patrimoniales en riesgo. Trabaja para restaurar y proteger monumentos y sitios amenazados por el tiempo, el conflicto o el desarrollo.
- ICOM (Consejo Internacional de Museos): Se encarga de promover la conservación, mantenimiento y comunicación del patrimonio cultural en los museos.

E. Preguntas al Canal y posibles respuestas

¿Por qué una empresa multibillonaria como la ACP, que entregó al Tesoro Nacional $2,494 millones el año fiscal 2022 en concepto de excedentes, derechos por tonelada de tránsito y el pago por servicios prestados por el Estado[25]; abandona su patrimonio histórico cultural?

[25] https://www.laestrella.com.pa/economia/221215/acp-entrega-tesoro-nacional-2-494-4-millones-aportes

Existen varias teorías por las cuales una empresa, como el Canal de Panamá, prefiere deshacerse de su patrimonio histórico en lugar de preservarlo. Algunas pueden ser:

1. Falta de interés: Una empresa, institución o autoridades carecen de un interés genuino en su historia y, por lo tanto, no ve la necesidad de preservarla.
2. Ahorro de fondos monetarios y falta de preservación: El patrimonio histórico también es destruido a través del abandono hasta que su condición insegura requiera su demolición. La falta de fondos, recursos, conocimiento técnico, personal calificado independiente y olvido por sus responsables lleva a su degradación y pérdida.
3. Prioridades diferentes: Las empresas o autoridades a menudo tienen objetivos y prioridades diferentes, y la preservación de su patrimonio histórico no es una de ellas. Pueden considerar que sus inversiones son más efectivas en áreas que tienen un impacto directo en su rentabilidad.
4. Costo: La preservación del patrimonio histórico requiere una inversión significativa de tiempo y dinero, especialmente si las estructuras o equipo están en mal estado, en abandono y, por lo tanto, requieren reparaciones extensas.
5. Uso del terreno: La ACP puede tener planes para utilizar las propiedades donde se encuentra su patrimonio histórico, ya sea para un proyecto particular como lo fue la Ampliación del Canal o disminuir los gastos operativos de su mantenimiento.
6. Ausencia de regulaciones: En algunos casos, existe una falta de reglamentos o su estricta implementación que protejan archivos, objetos, documentos, maquinaría, edificios, etc. lo que permite a la empresa su pérdida sin mayores consecuencias. Como es conocido, en Panamá sobran leyes, pero falta su real ejecución.
7. Beneficios económicos: La demolición de edificios históricos permite a la ACP obtener ganancias a corto plazo, ya sea a través de la suspensión de su mantenimiento, traspaso del terreno o construcción de una nueva estructura en su lugar.
8. Modernización y desarrollo: La Ampliación del Canal, el crecimiento de los puertos, mejora de facilidades y desarrollo económico requiere la destrucción de inmuebles históricos para hacer espacio a nuevas construcciones.
9. Desastres naturales y exposición a inclemencias naturales: Estos causan daños irreversibles a los equipos y maquinaria histórica. Lo peor que la ACP puede hacer es colocarlos próximos al mar ya que el salitre los destruya de forma irreversible.
10. Acciones deliberadas: El patrimonio histórico también es destruido como una forma de borrar su memoria histórica. Esto puede ser el resultado de complejos e ignorancia como, por ejemplo, cualquier recuerdo de la “Zona del Canal” de 1904 a 1979.

En resumen, hay muchas razones por las que una empresa multibillonaria como la ACP o instituciones gubernamentales prefieren no invertir en la preservación de su patrimonio histórico, y cada situación es única. No obstante, es importante señalar que su promoción tiene muchos beneficios positivos, como el fortalecimiento de la identidad cultural, la mejora de la imagen del Canal de Panamá, y la creación de oportunidades turísticas y económicas.

F. Hipótesis o suposiciones

Como Coordinador de la Unidad de Memoria Histórica del Canal y supervisor de los equipos de Biblioteca y Archivos del 2021 al 2022, ya que no tuve respuesta a mis interrogantes, supongo las siguientes hipótesis por las cuales el Canal permite el deterioro irreversible, abandono, demolición, destrucción, venta o descarte de su patrimonio histórico cultural.

1. Enfoque prioritario en las operaciones de tránsito marítimo: La ACP prioriza la eficiencia y rentabilidad del canal como infraestructura clave para el comercio mundial. Los recursos y esfuerzos se concentran en la operatividad y expansión del Canal, dejando el patrimonio histórico como un aspecto secundario sin importancia.
2. Falta de conciencia o valoración histórica: Es posible que las altas autoridades canaleras no tengan una comprensión adecuada de la importancia del patrimonio histórico y su papel en la identidad nacional y cultural. Mucho menos su potencial económico y turístico a nivel nacional e internacional.
3. Negligencia: La falta de mantenimiento y desidia de las unidades responsables conllevan el deterioro y destrucción de archivos, materiales, equipos y estructuras. A falta de una directriz sobre el tema; cada unidad decide a su propia discreción.
4. Desarrollo económico: La presión por el desarrollo económico y la construcción de nuevas infraestructuras puede llevar a la demolición de edificios históricos, por ejemplo, la destrucción parcial del poblado de Gatún dada la Ampliación del Canal.
5. Protección insuficiente de la ley: La legislación y regulaciones nacionales no son aplicadas al Canal de Panamá dada su autonomía administrativa por el Título Constitucional de la República de Panamá.

G. Propósito

La diferencia entre el propósito y objetivo de esta publicación es importante para entender su enfoque general y lo que se busca lograr. El propósito, a continuación, es la razón por la cual yo escribo este libro, o sea, crear conciencia a nivel nacional e internacional dada la destrucción, deterioro, abandono y desaparición del patrimonio histórico cultural del Canal:

- Restaurar, preservar, proteger y promover la memoria y patrimonio histórico del Canal de Panamá para las presentes y futuras generaciones. Difundir este conocimiento a través de redes sociales, publicaciones, actividades culturales, y turismo nacional e internacional. Además, educar, inspirar, preservar el legado cultural y provocar una reflexión profunda sobre nuestra herencia histórica.

Por otro lado, el objetivo (a continuación) es más concreto y específico, describiendo lo que el autor quiere lograr con el contenido del libro. Los objetivos son medibles y claramente definidos, como proporcionar información precisa sobre un tema, narrar una serie de eventos históricos de manera comprensible, o guiar al lector a través de un proceso paso a paso. En resumen, el propósito es el "por qué" general de escribir el libro, mientras que los objetivos son los "qué" específicos que el autor busca alcanzar para cumplir con ese propósito.

H. Objetivo y principales temas

El objetivo general de esta publicación es documentar y destacar el valor histórico cultural de la antigua Planta Potabilizadora de Agua Clara que se encuentra en abandono y acceso restringido cerca del Centro de Visitantes de Agua Clara. Adicional, sensibilizar a las autoridades canaleras, Gobierno y público en general sobre la importancia de su protección legal, preservación y restauración, al mismo tiempo que se propone su integración en estrategias de promoción turística sostenible, contribuyendo a preservar la memoria histórica y fortalecer la identidad cultural de Panamá. Los quince principales puntos que este objetivo desea compartir y promover para su resolución en un futuro son:

1. Restauración y preservación de sitios históricos en peligro de deterioro o ruina. Recuperar edificios, maquinaría, equipos y documentación que se encuentra en un estado de abandono para devolverles su aspecto original y mejorar su condición.
2. Promover y difundir el conocimiento del patrimonio histórico a través de materiales turísticos, campañas de mercadeo y programas de educación para el turismo.
3. Desarrollar itinerarios turísticos que incluyan los equipos, utensilios, maquinaría, edificios, estructuras y sitios históricos más relevantes del Canal de Panamá.
4. Proteger y conservar el patrimonio histórico cultural del Canal de Panamá para garantizar su continuidad y evitar su abandono, demolición o destrucción.
5. Permitir el acceso vehicular y peatonal al patrimonio histórico canalero y mejorar las infraestructuras y servicios turísticos, como reparación de carreteras, mejora de la señalización e iluminación, construcción de nuevas vías y áreas de estacionamientos cercanas o colindantes a los sitios de interés.

6. Educar a la población panameña a través de cursos como Relaciones Panamá - Estados Unidos. Promover la investigación, postgrados y maestrías especializadas en el patrimonio histórico cultural canalero para conocer nuestra historiografía.
7. Fomentar la participación de la comunidad local en la gestión y promoción del patrimonio histórico, a través de programas de voluntariado y formación. Por ejemplo, los colonenses en el rescate del poblado de Gatún y áreas circundantes.
8. Crear programas de mantenimiento y preservación sostenible, que incluyan la conservación de la biodiversidad y el equilibrio ecológico en los sitios históricos.
9. Desarrollar y mejorar un plan de promoción turística para atraer visitantes interesados en el patrimonio histórico del Canal incluyendo paquetes especiales para los gringos "*Zonians*", que desean recordar y visitar los antiguos sitios de acceso restringido bajo la responsabilidad de la ACP y áreas revertidas (fuertes militares) en abandono.
10. Investigar, documentar y publicar lo referente al patrimonio histórico y cultural del Canal de Panamá, con el fin de garantizar su conservación y promoción a largo plazo.
11. Crear oportunidades de empleo en las ciudades terminales del Canal (Colón y Panamá) para fomentar el desarrollo económico a través del turismo histórico cultural de sus sitios históricos próximos a los centros de visitantes de Agua Clara y Miraflores.
12. Preservar y salvaguardar el patrimonio histórico y cultural del poblado de Gatún, cementerios, edificios y áreas aledañas para las presentes y futuras generaciones.
13. Restaurar, mantener y proteger en buen estado el patrimonio histórico cultural del Canal para garantizar y mejorar su estado físico actual, supervivencia y perpetuación.
14. Atraer turistas y visitantes a los sitios históricos y culturales generando un impacto positivo en la economía local y en la conciencia sobre la importancia del patrimonio histórico y cultural.
15. Aumentar el orgullo por la memoria y patrimonio histórico cultural del Canal. Involucrar a las instituciones gubernamentales para que dejen de ser meros espectadores.

I. Restricciones, limitaciones y posibles desafíos

El análisis del patrimonio histórico es una disciplina que se encarga de estudiar, conservar y proteger los bienes culturales y patrimoniales de una comunidad. Sin embargo, como toda disciplina, también tiene sus restricciones, limitaciones y desafíos. Algunas de ellas son:

1. Financiamiento: La conservación y restauración de bienes patrimoniales requiere de un gran desembolso económico, y muchas veces, los fondos disponibles son insuficientes para garantizar su mantenimiento y, mucho menos, promoción turística.

2. Política y visión de conservación: Esta puede variar en relación con la restauración, del patrimonio histórico, lo que puede afectar la preservación de estos bienes.
3. Falta de información y conocimiento técnico: Es importante tener información detallada y actualizada del patrimonio histórico que se quiere promocionar, así como sobre las técnicas y materiales adecuados para su restauración y preservación.
4. Deterioro natural: El paso del tiempo y exposición a los elementos naturales, como la humedad y el salitre, causan un daño irreversible a los bienes patrimoniales.
5. Intervenciones no autorizadas: Las intervenciones no autorizadas en bienes patrimoniales, como la construcción de edificios cerca de monumentos o la modificación de estructuras originales, afectan su integridad y autenticidad.
6. Conflicto de intereses: Pueden existir conflictos de intereses entre diferentes grupos de interés, como los precaristas, intereses privados y las autoridades, que afectan la protección legal y promoción turística del patrimonio histórico.
7. Dificultad en la identificación y clasificación: Es difícil identificar y clasificar los bienes patrimoniales, especialmente donde la información histórica es escasa, errónea, o no hay encargados independientes idóneos del tema o los registros no están disponibles.
8. Cambios culturales y sociales: Las sociedades cambian con el tiempo, y es importante tener en cuenta que los valores y prioridades pueden cambiar con ellas. Esto afecta la percepción y valoración y, por lo tanto, su preservación y promoción turística.
9. Protección legal: En Panamá, sobran leyes y regulaciones que protegen el patrimonio histórico, pero son de mínima o poca ejecución. Por ejemplo, las leyes de restauración de los cascos antiguos de las ciudades de Panamá y Colón. Esto es un obstáculo si no se cumplen los requisitos legales y se destruye el patrimonio histórico existente.
10. Dificultad en la toma de decisiones: Tomar decisiones en relación con la conservación y protección legal del patrimonio histórico puede ser difícil debido a la complejidad de los asuntos y a la necesidad de equilibrar diferentes factores y perspectivas.

J. Alcance del presente estudio

1. Abarca sitios inspeccionados por el autor hasta el año 2022, del Canal de Panamá, en áreas bajo su responsabilidad y con restricciones de acceso.
2. La documentación proviene de publicaciones oficiales ACP y fotos captadas por el autor (hasta 2022) a excepción de las imágenes satelitales de Earth Pro (2025).
3. De los cientos de sitios patrimoniales canaleros de acceso restringido por la ACP, solo se muestran 15 ejemplos en el apéndice (10 en el Atlántico y 5 en el Pacífico).

II. Valores Corporativos y marco legal de los bienes patrimoniales de la ACP[26]

A. Honestidad

- Somos veraces al compartir nuestros pensamientos y sentimientos a la vez que demostramos, con nuestro ejemplo, la veracidad de nuestras afirmaciones.
- No toleramos las acciones que infrinjan la Ley y las normas de la organización.
- No permitimos el mal uso, la apropiación indebida ni el abuso de los bienes de la empresa.
- Denunciamos los abusos al patrimonio y a los recursos de la organización y las manipulaciones del sistema para soslayar sus objetivos.
- Nos comunicamos con respeto y compartimos en la empresa la información, los conocimientos y las experiencias de forma clara y sincera.

B. Lealtad

- Somos personas visionarias, exigentes con nosotros mismos y comprometidas con los esfuerzos estratégicos de la organización.
- Somos creyentes y promotores del cambio para el bienestar de la empresa y actuamos en consecuencia.
- Unificamos esfuerzos para lograr los objetivos estratégicos de la empresa.
- Nos motiva un profundo amor por Panamá y dedicamos nuestros esfuerzos al servicio del país.
- Somos sensibles a las expectativas de nuestro equipo humano, buscando un adecuado equilibrio entre sus necesidades y las de la empresa.

C. Transparencia

- Nos adherimos al código de ética y conducta de la empresa en nuestro desempeño.
- Somos íntegros en todas nuestras decisiones y acciones y damos cuenta de ellas.

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[26] https://pancanal.com/sobre-la-organizacion/

D. Responsabilidad

- Contribuimos y participamos en el logro de los objetivos de la empresa.
- Asumimos las consecuencias de nuestras decisiones y acciones.
- Estamos comprometidos con la excelencia como un deber tanto individual como corporativo.
- Administramos y custodiamos el patrimonio más importante de todos los panameños.

E. Bienes Patrimoniales de la ACP (Marco Legal):[27]

- La Junta Directiva debe autorizar cualquier venta o permuta de bienes inmuebles patrimoniales.[28]
- El Administrador debe justificar que el bien no es necesario para el funcionamiento del Canal.[29]
- Los bienes inmuebles deben ser avaluados de acuerdo con las leyes nacionales y las disposiciones de la Junta Directiva.
- La venta de bienes inmuebles patrimoniales debe seguir un procedimiento de selección de contratistas.
- El criterio de selección será el mayor precio.
- El uso de bienes patrimoniales de la ACP a terceros puede ser mediante contratos de arrendamiento, concesión de uso o autorizaciones de uso.[30]
- El uso de los bienes patrimoniales de la ACP no debe afectar negativamente la calidad y cantidad de agua, las operaciones del Canal, las actividades de la ACP, ni los proyectos de la ACP.
- El uso temporal no exclusivo de los bienes patrimoniales de la ACP puede ser gratuito o mediante el pago de una tarifa fijada por la ACP.

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[27] https://pancanal.com/wp-content/uploads/2021/09/acuerdo102.pdf

[28] https://pancanal.com/wp-content/uploads/2021/09/Compendio-Uso-de-Bienes.pdf

[29] https://pancanal.com/wp-content/uploads/2021/09/Compendio-Actividades-Comerciales.pdf

[30] https://pancanal.com/wp-content/uploads/2021/09/Compendio-Uso-de-Bienes.pdf

III. El Canal de Panamá de Ayer y Hoy

Comparar fotografías del pasado y presente ofrece una vista fascinante hacia la transformación de un país marcado por su papel clave en el comercio mundial y su rica diversidad cultural. Estas comparaciones visuales resaltan el desarrollo del área y ampliación canalera, las infraestructuras emblemáticas, y los cambios en los paisajes naturales y humanos. Los antiguos edificios, calles, estructuras, autos y vida en general que alguna vez fueron centro de actividad encuentran un nuevo significado cuando se contraponen con el sombrío y abandonado panorama actual, haciendo que los espectadores aprecien tanto el progreso o la cantidad de edificaciones históricas demolidas a través de los años.[31]

Más allá de la evolución o retroceso material, estas imágenes ayudan a capturar y preservar la memoria colectiva de las generaciones que vivieron y contribuyeron a construir el Canal de Panamá. Comparar el pasado con el presente permite a los lectores redescubrir las historias de sus antepasados, desde los primeros trabajadores canaleros hasta las comunidades europeas y afrodescendientes que influyeron en la identidad nacional. Estas imágenes no solo evocan nostalgia, sino que también abren un espacio de diálogo y reflexión sobre los cambios sociales y económicos que han moldeado el carácter de Panamá.

La importancia de estas comparaciones se extiende también a la educación y al aprendizaje intergeneracional. Las fotos antiguas ofrecen lecciones valiosas sobre la historia y cultura del país, permitiendo que las nuevas generaciones comprendan la magnitud de las obras y eventos que definieron a la República de Panamá. Mientras tanto, las imágenes actuales brindan un contexto que ilustra los desafíos y logros de la era moderna. Este contraste puede inspirar a las personas a cuidar y valorar su entorno, reconociendo el legado de quienes vinieron antes y reflexionando sobre el futuro que desean construir.

El turismo cultural se ve enriquecido por esta práctica visual, ya que atrae a visitantes interesados en explorar la historia de una manera más profunda y significativa. Al destacar la dualidad entre el pasado y presente, se genera un atractivo especial para quienes buscan experiencias más allá de las bellezas naturales, centros comerciales y rascacielos. Esto impulsa su conservación, al tiempo que ayuda a revitalizar vistas históricas y promover un desarrollo turístico sostenible (incluyendo señalizaciones con una breve descripción desde el sitio en que se captó la foto histórica), donde la memoria y el progreso conviven en armonía.

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[31] https://www.youtube.com/watch?v=5u4iEdDeyK8

El cotejo de fotos, planos y mapas nos permite valorar el inicio de la construcción del Canal, la forma de vestir de la población, los avances en la construcción de edificaciones y obras vitales, el saneamiento de la ciudad de Panamá a principios del siglo XX, los rellenos de terreno en el lado Pacífico, etc. Asimismo, comparar los límites administrativos, las características especiales del terreno y ubicar dónde estaban situados una gran cantidad de espacios que son parte de nuestro patrimonio histórico canalero. Esto es la base del aprendizaje por comparación y su importancia radica en que cada lector podrá observar, evaluar y descubrir un sinnúmero de interesantes aspectos por sí sólo.



A continuación, algunos ejemplos de vistas desde el cauce del Canal y otras ubicaciones que eran de libre acceso hasta su reversión a Panamá. Se presentan con el siguiente formato: la foto original del Ayer (en blanco y negro) en la parte superior a la izquierda y a colores (2018 o antes) en el lado opuesto. Se muestra, en la parte inferior (de la página a la izquierda), un plano o mapa histórico con imagen satelital en el lado opuesto (2018). La vista satelital del sitio (Google Earth) está enmarcado con una flecha o círculo blanco. Nota: Las fotos presentadas son solo una muestra del lado Pacífico publicadas hace años atrás.[32]

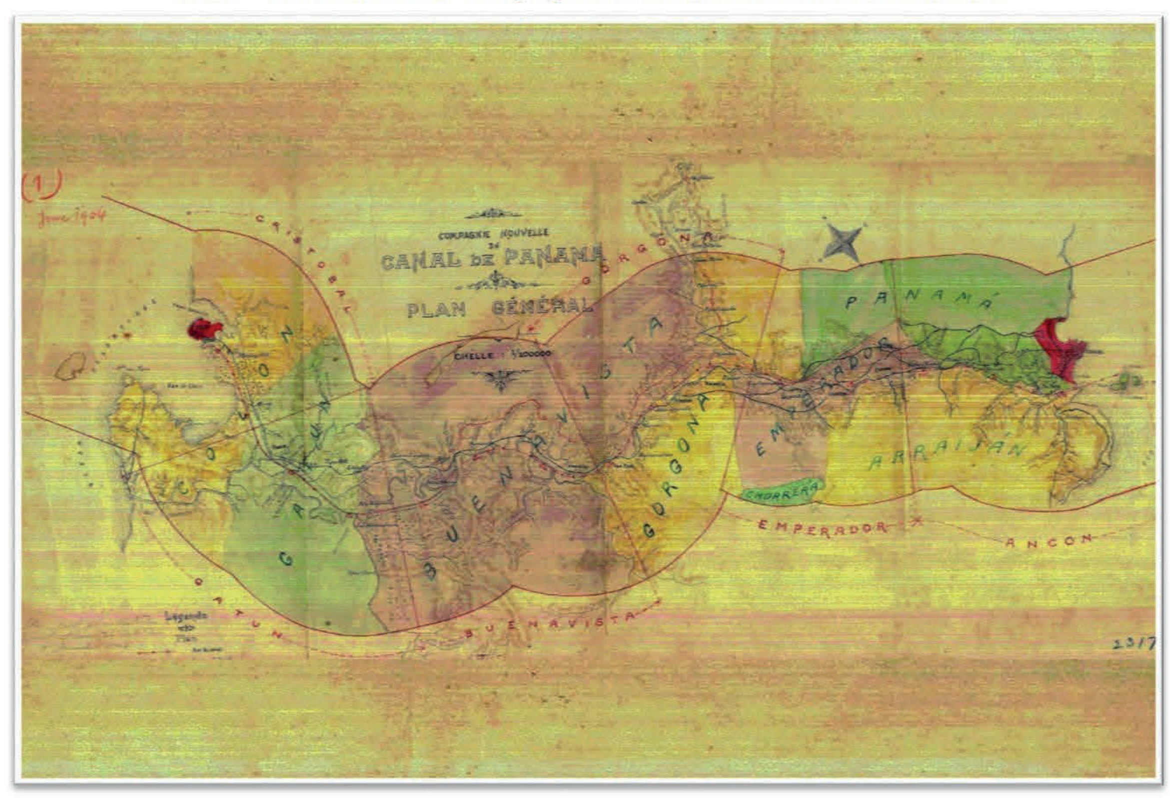
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[32] https://www.amazon.com/dp/1792054939

1904 - Culebra Cut. Steam shovel excavating and loading French dump cars.



1904 - General Plan / Compagnie Nouvelle Du Canal de Panama.



Cerro de Oro y puente Centenario (fondo a la derecha). Vista en dirección sureste.

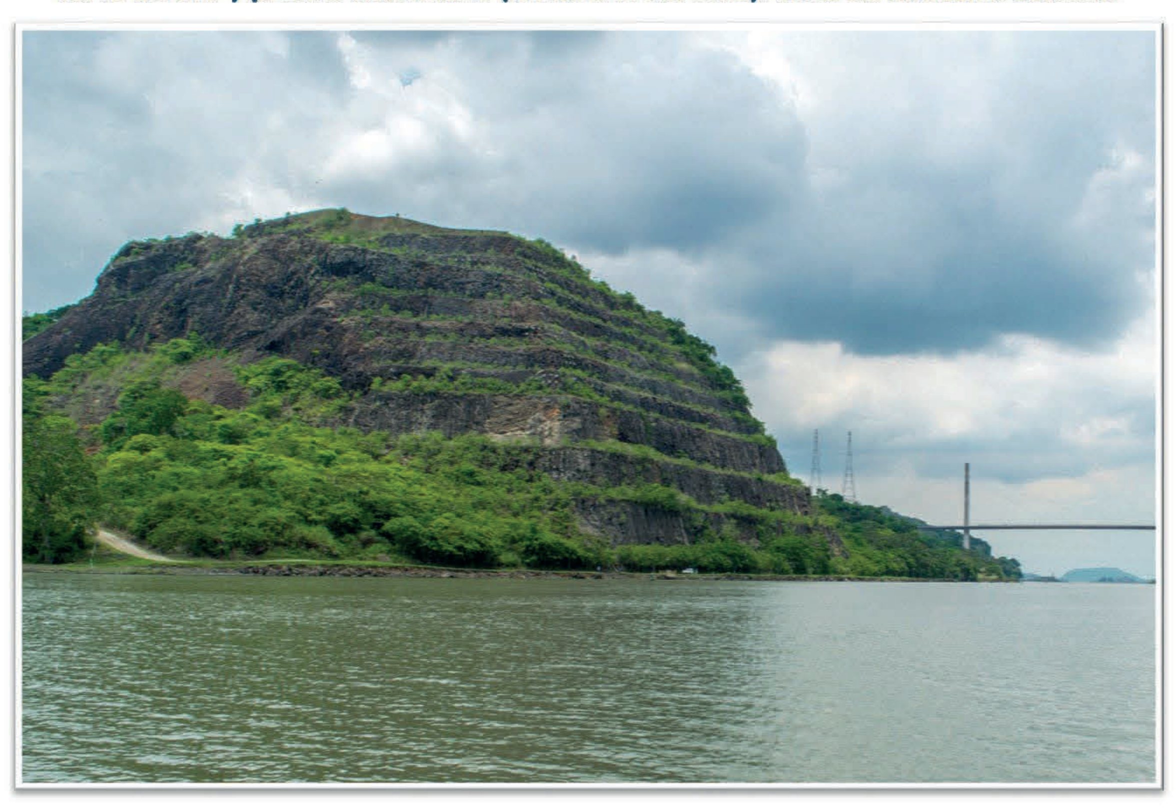
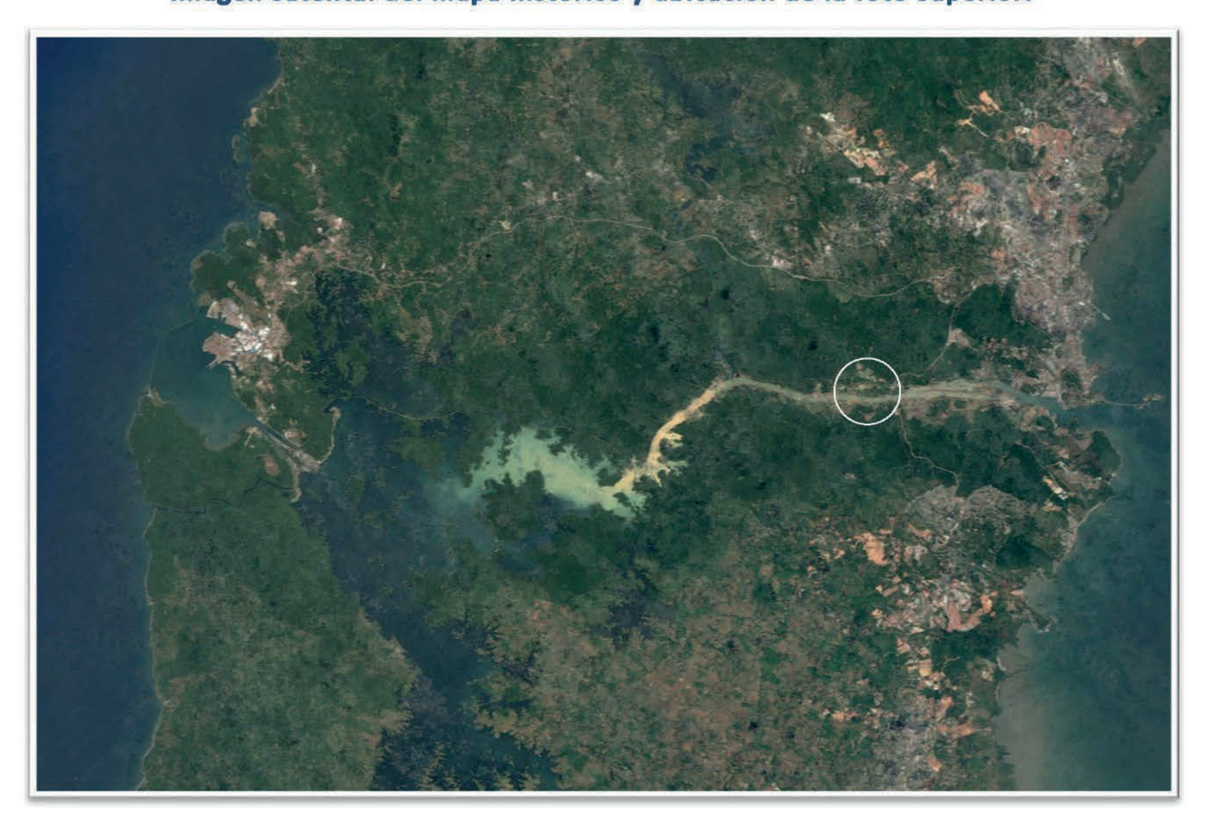


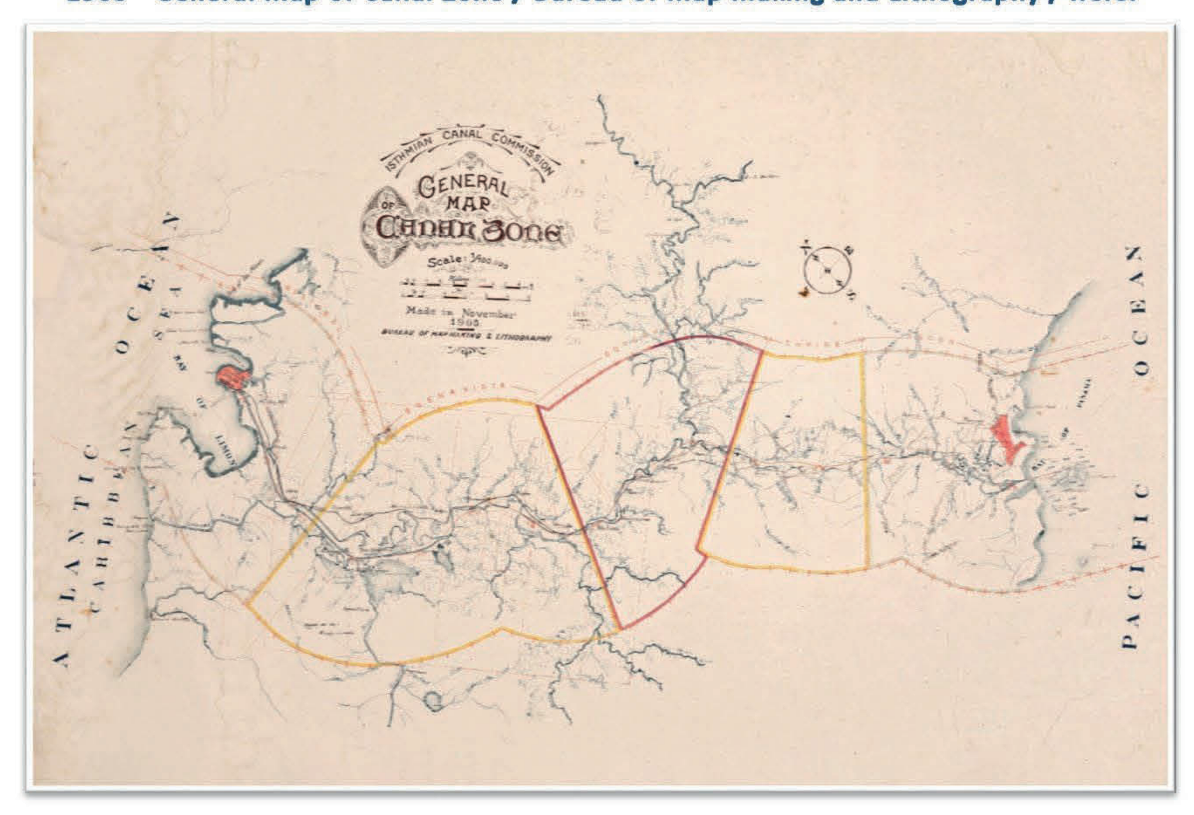
Imagen satelital del mapa histórico y ubicación de la foto superior.



1905 circa - Culebra Cut. West Bank north of Contractor's Hill looking south.



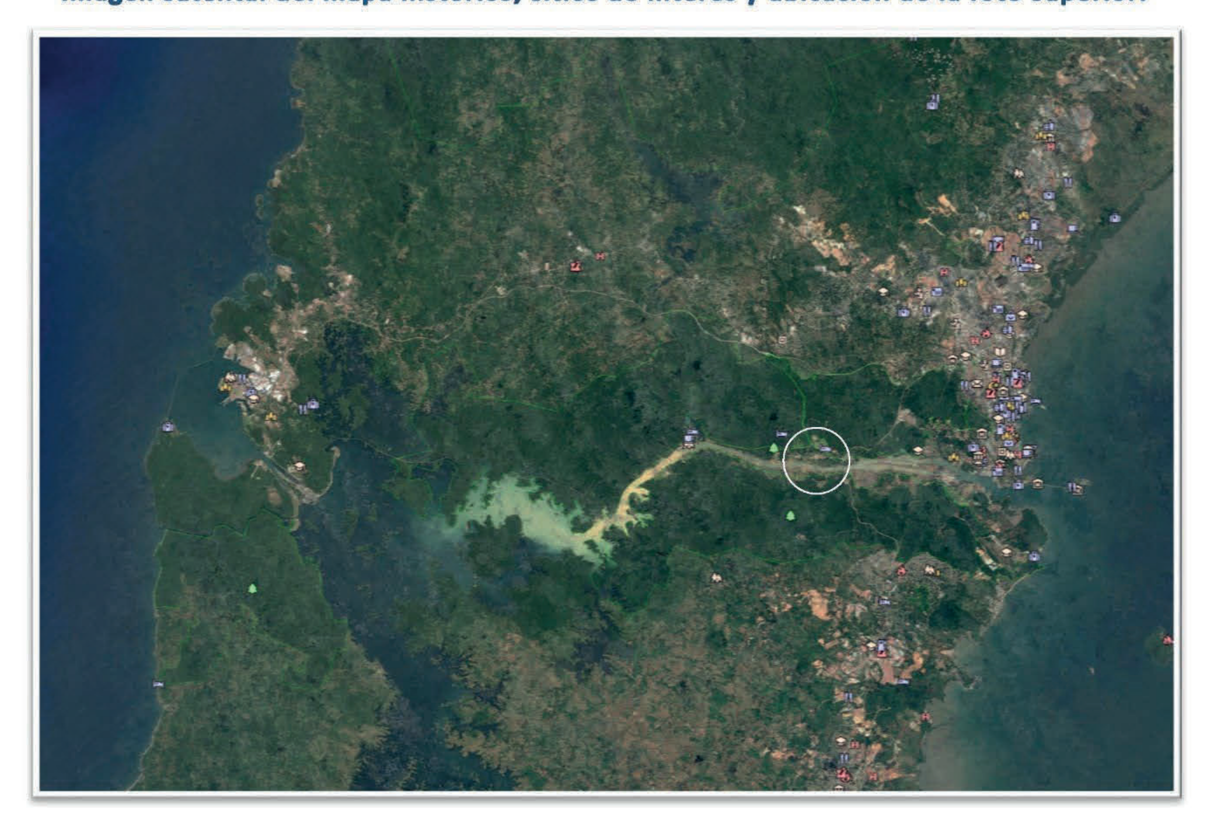
1905 - General Map of Canal Zone / Bureau of Map Making and Lithography / I.C.C.



Cerro de Oro (izquierda) y Zión (derecha), desde cauce del Canal, viendo al sureste.



Imagen satelital del mapa histórico, sitios de interés y ubicación de la foto superior.



1906 - Culebra Cut. Top shovel at elevation +290' and bottom one at +160'.



1906 - Map showing line of proposed lock canal with summit elevation at 85 feet.



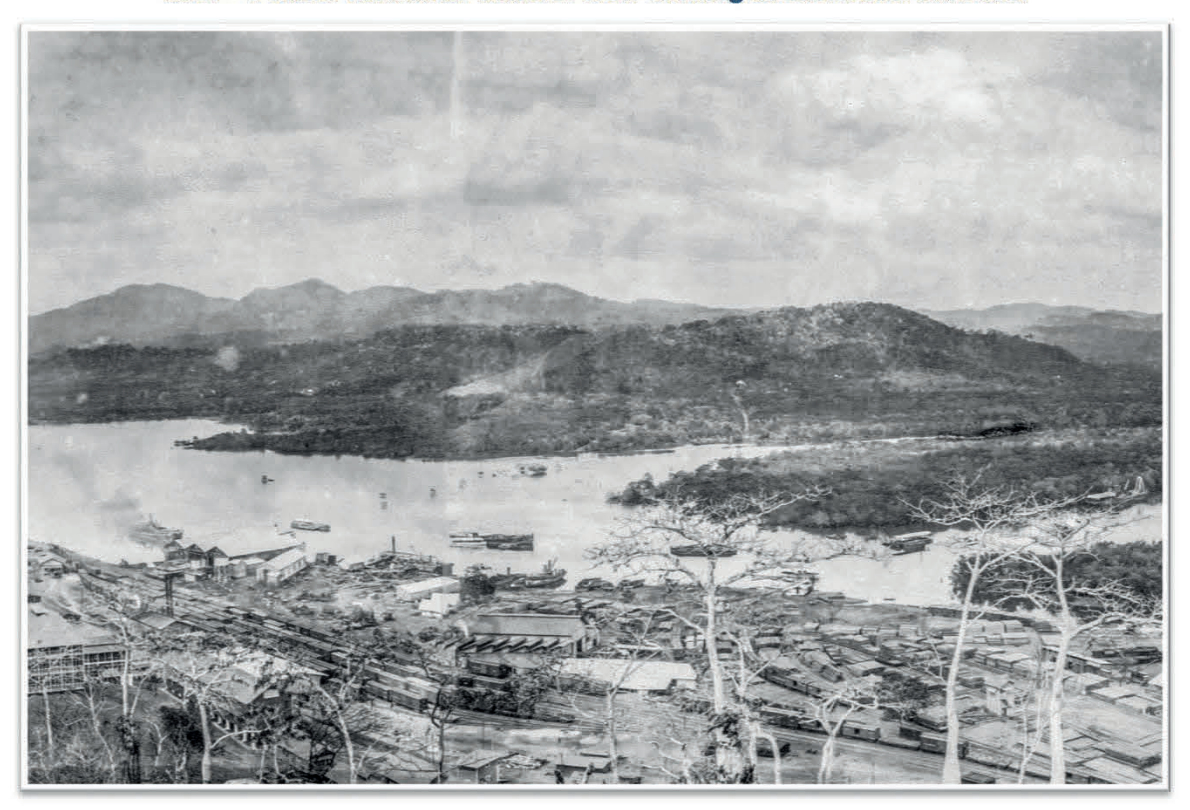
Corte Culebra y Cerro de Oro desde la carretera de Borinquen en el lado oeste del Canal.



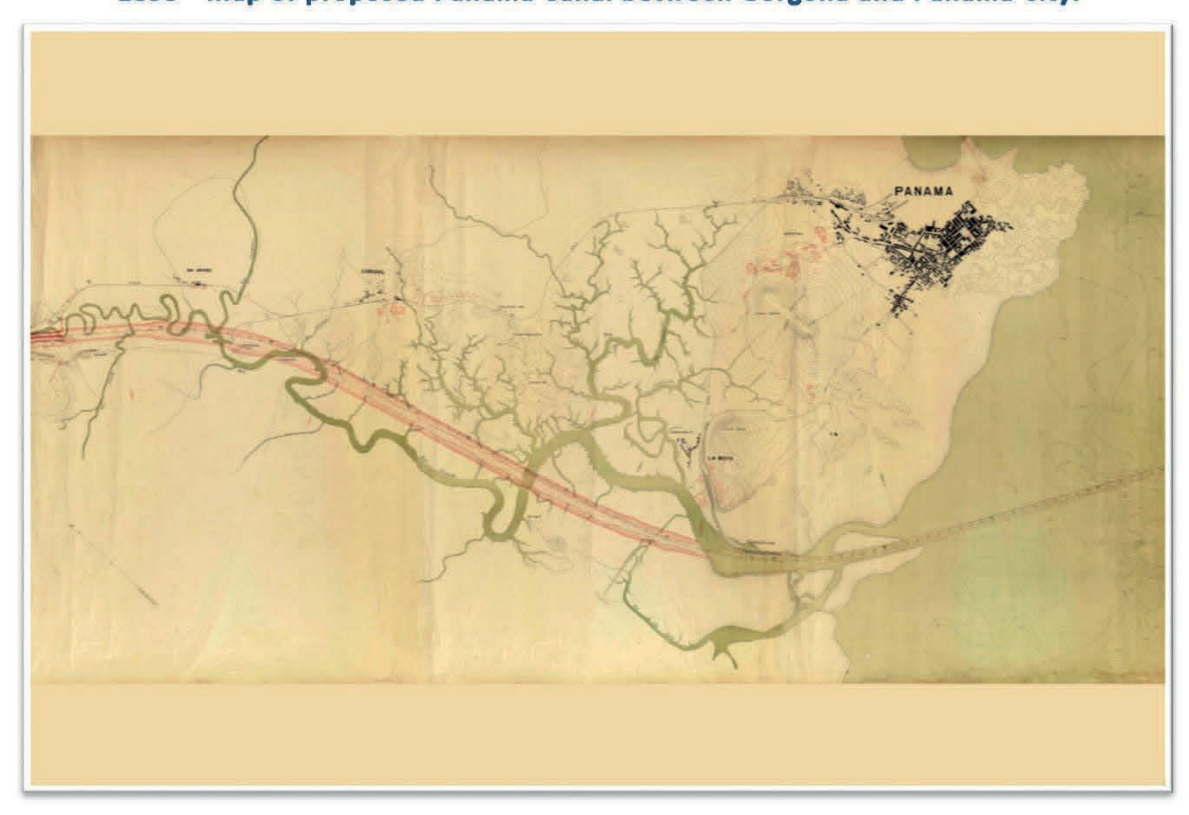
Imagen satelital del mapa histórico, cauce del Canal y ubicación de la foto superior.



1907 - Pacific Terminal. General view looking southwest from Sosa.



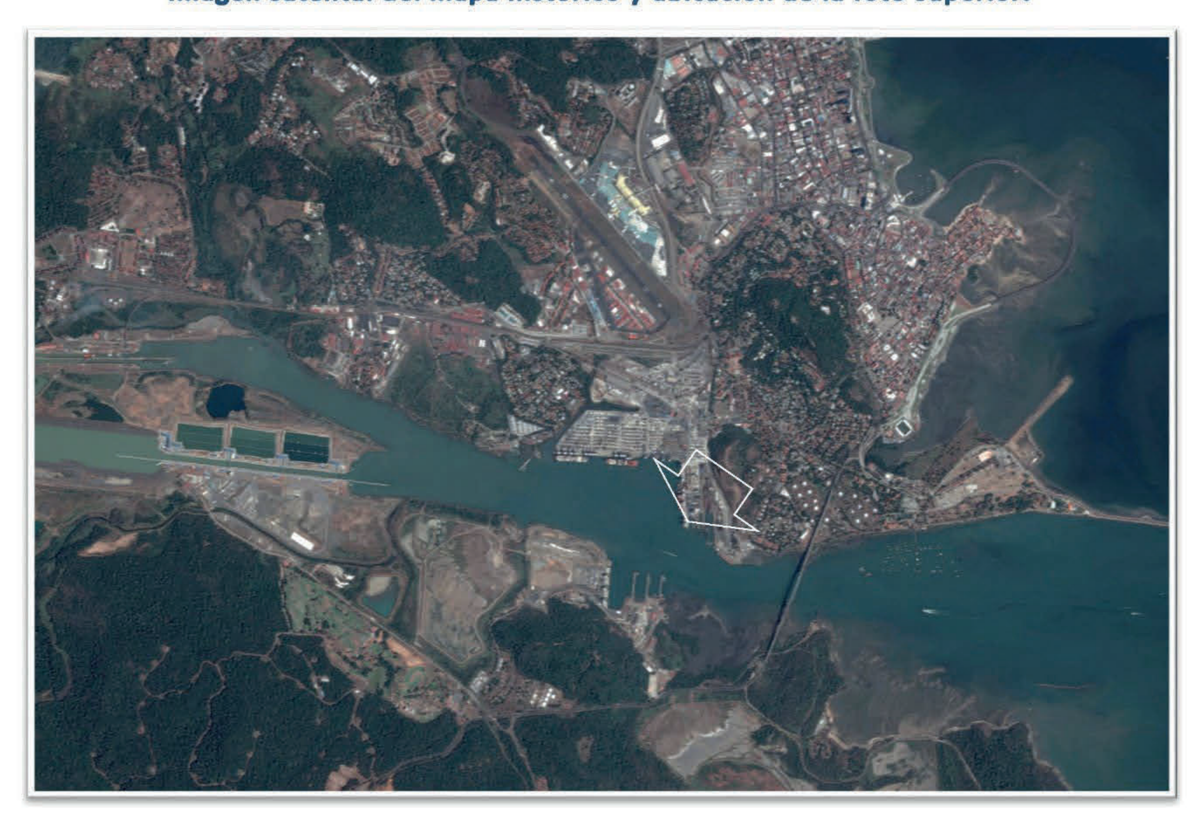
1895 - Map of proposed Panama Canal between Gorgona and Panama City.



Puertos de Balboa y Rodman (al fondo), viendo al suroeste, desde cerro Sosa.



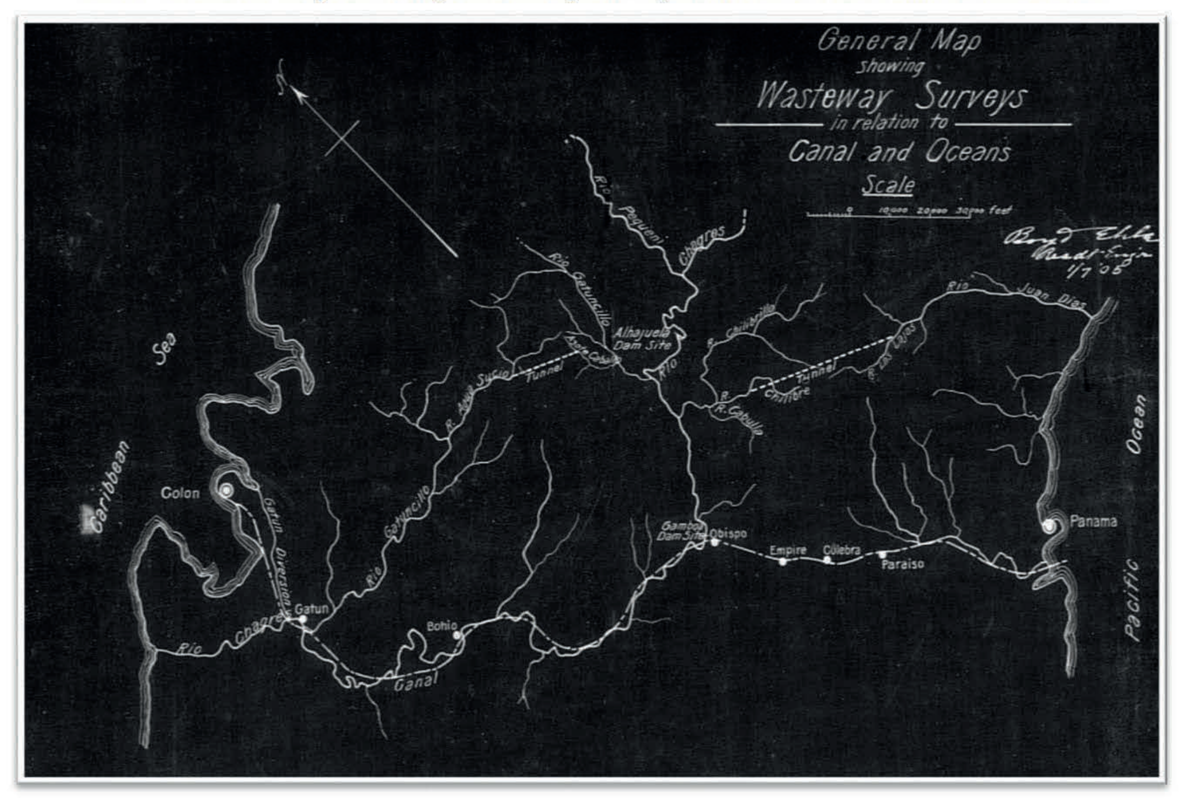
Imagen satelital del mapa histórico y ubicación de la foto superior.



1908 - Culebra Cut. Looking north between Contractor's Hill and Gold Hill.



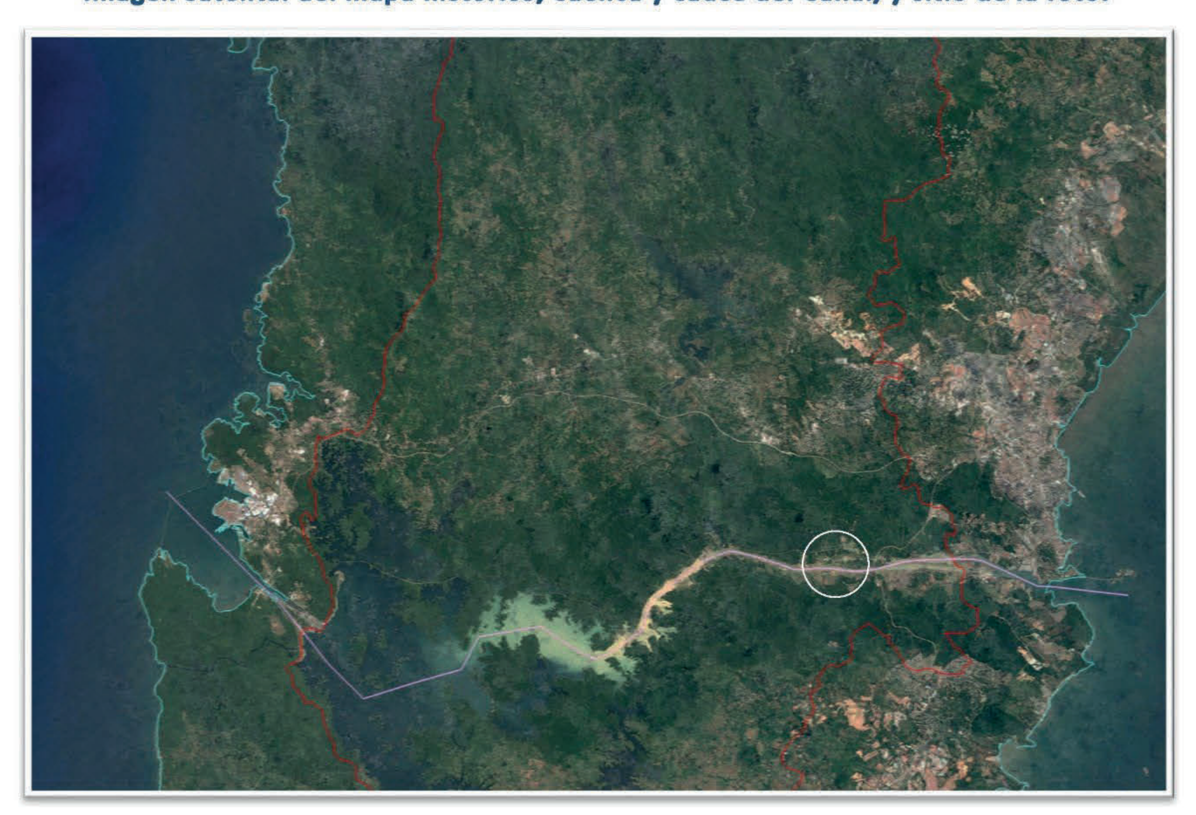
1908 - General map showing wasteway surveys in relation to Canal and Oceans.



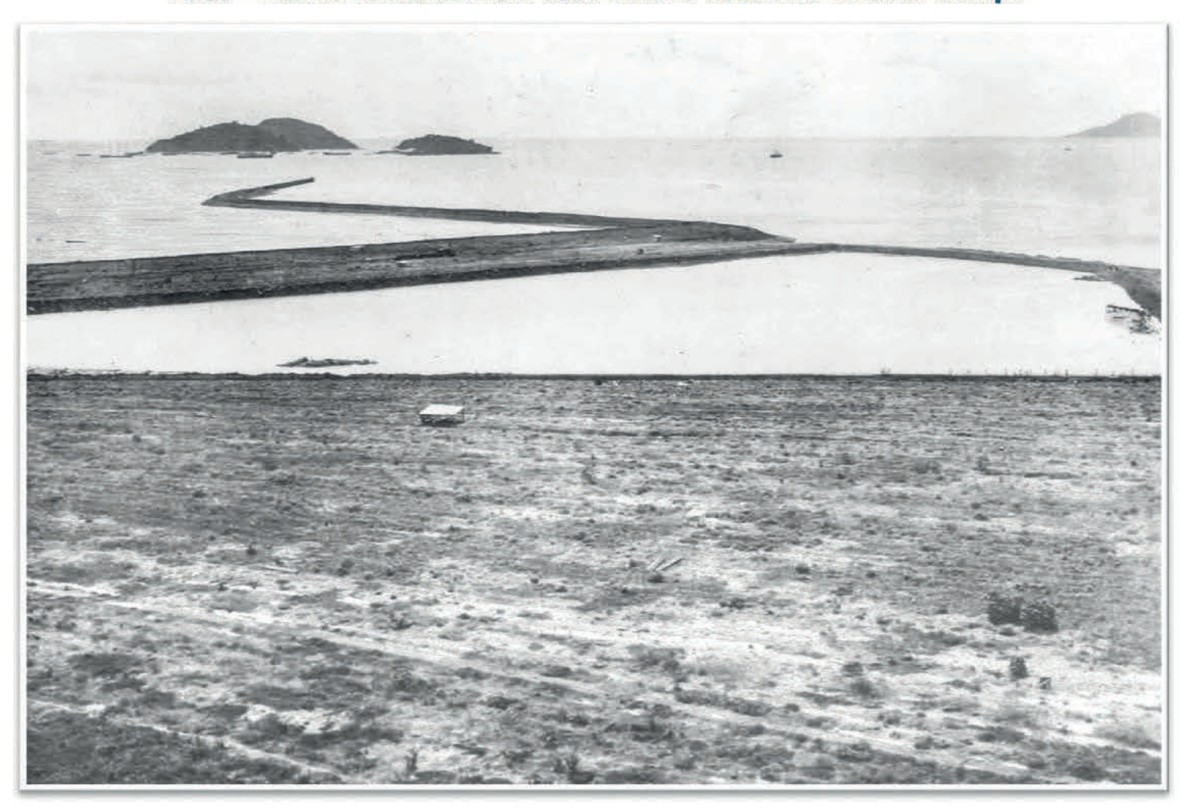
Cerro Contratista, Corte Culebra y cerro de Oro. Vista en dirección noroeste.



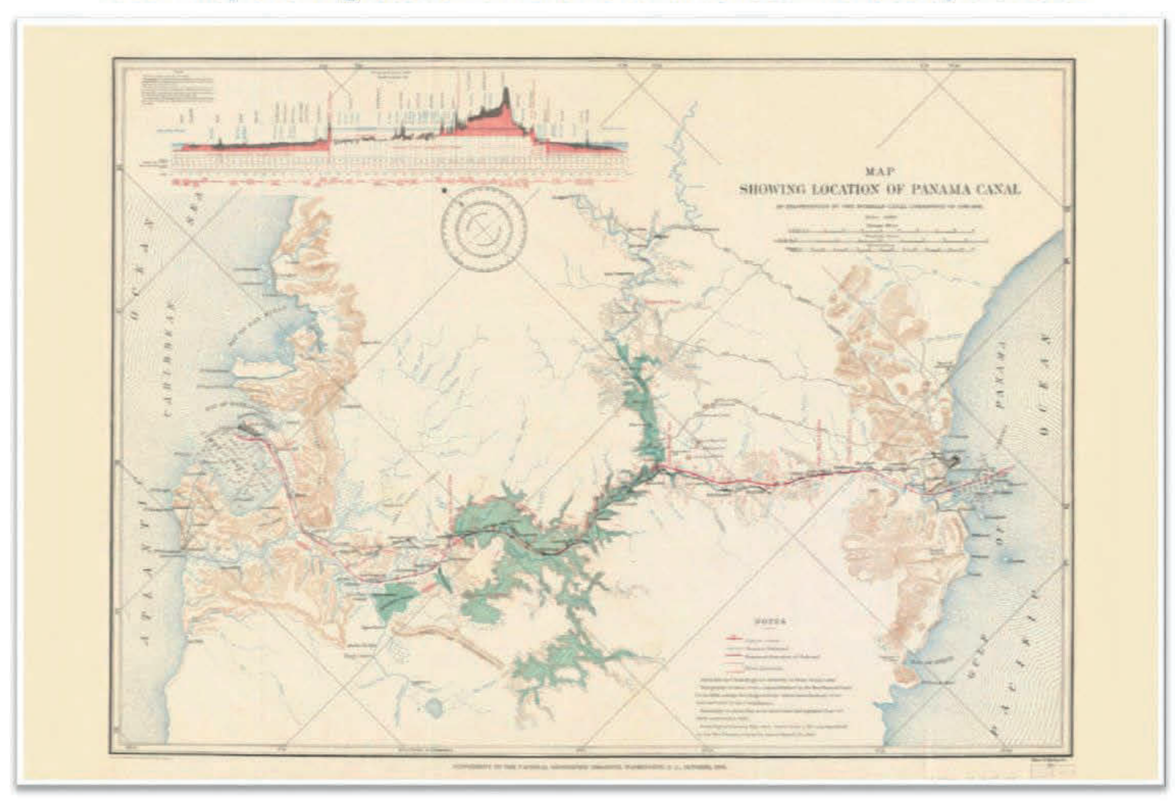
Imagen satelital del mapa histórico, cuenca y cauce del Canal, y sitio de la foto.



1908 - Pacific Terminal from Sosa Hill. La Boca and Amador dump.



1905 - Map showing location of Panama Canal as recommended by the I.C.C.



Poblados de La Boca y Amador en el corregimiento de Ancón. Vista en dirección sureste.

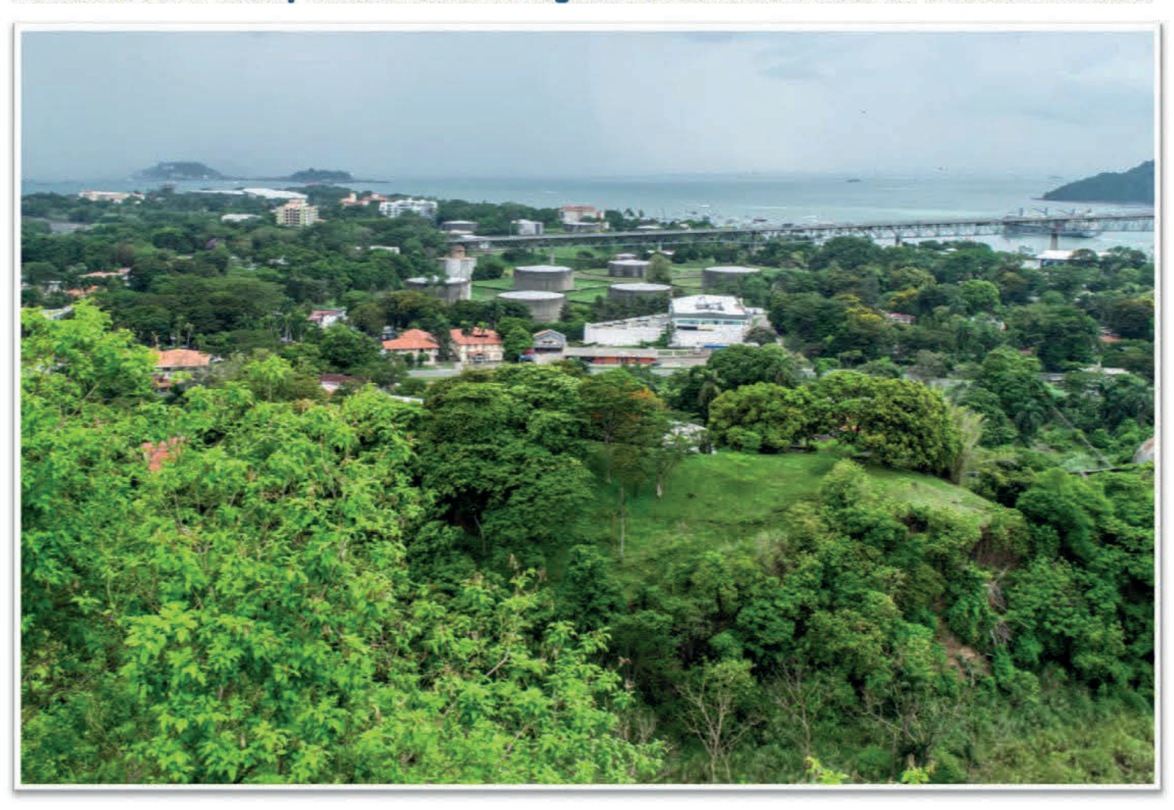
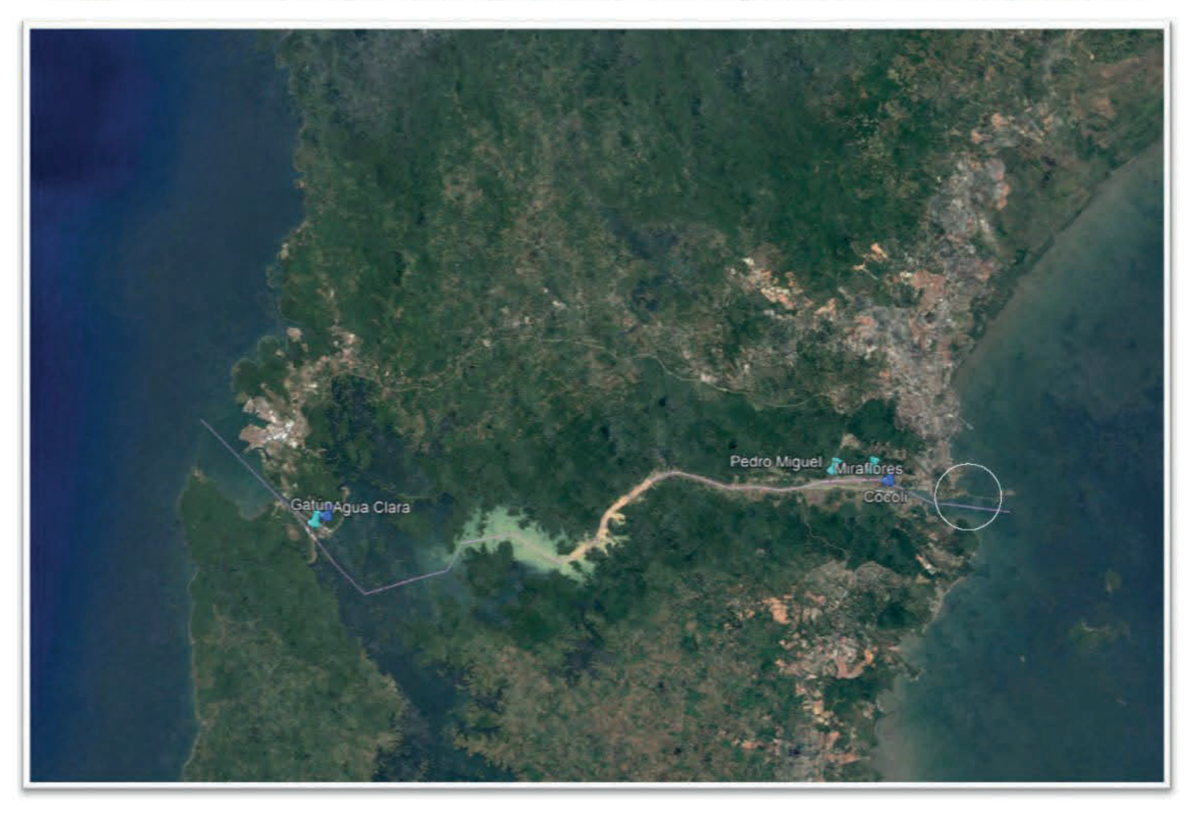


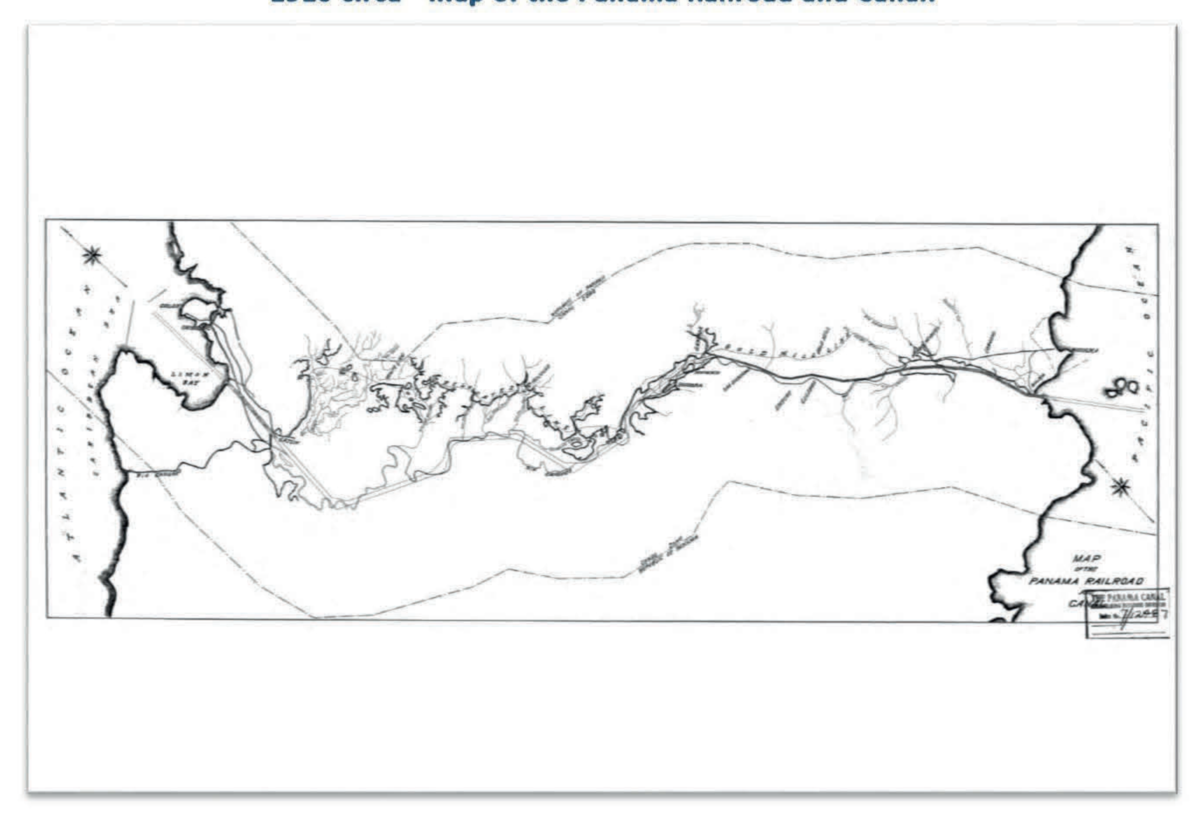
Imagen satelital del mapa histórico, Canal de Panamá y ubicación de la foto superior.



1910 - Combined dyke and dump from east Balboa to Naos Island.



1910 circa - Map of the Panama Railroad and Canal.



Poblados de La Boca y Amador; islas de Perico y Naos. Vista en dirección sureste.

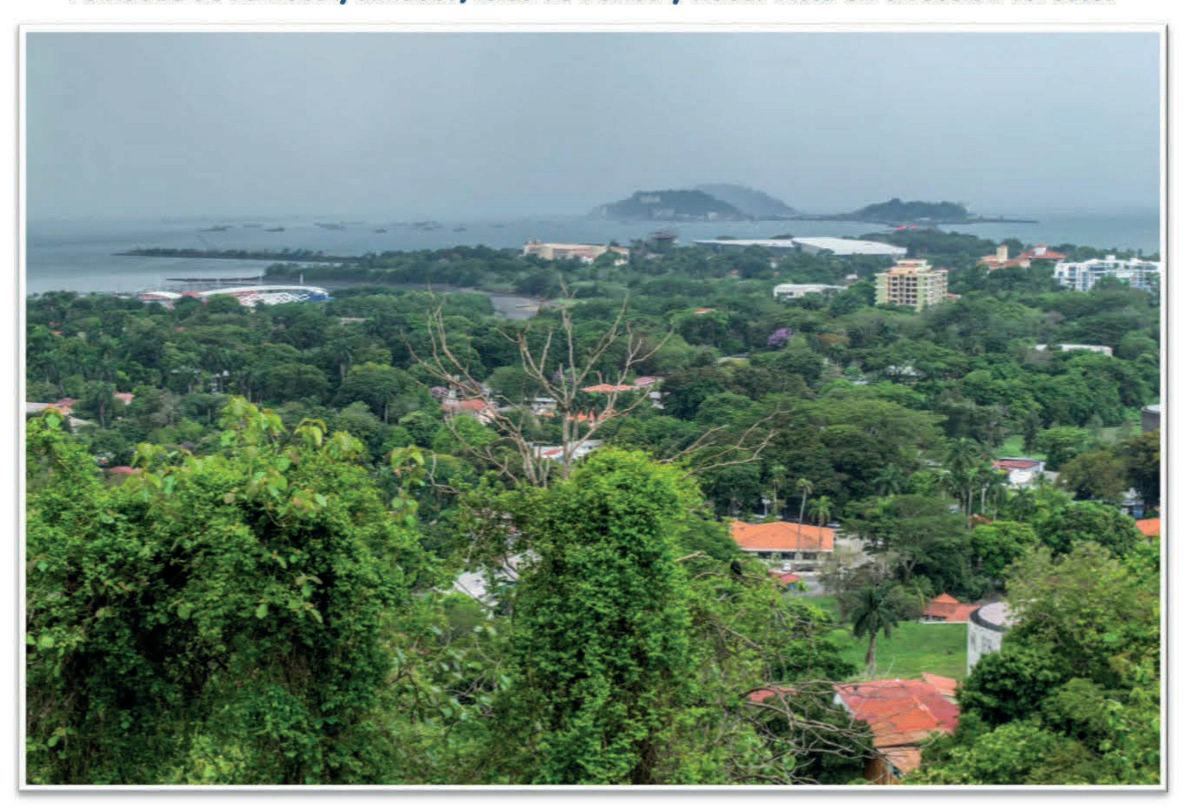
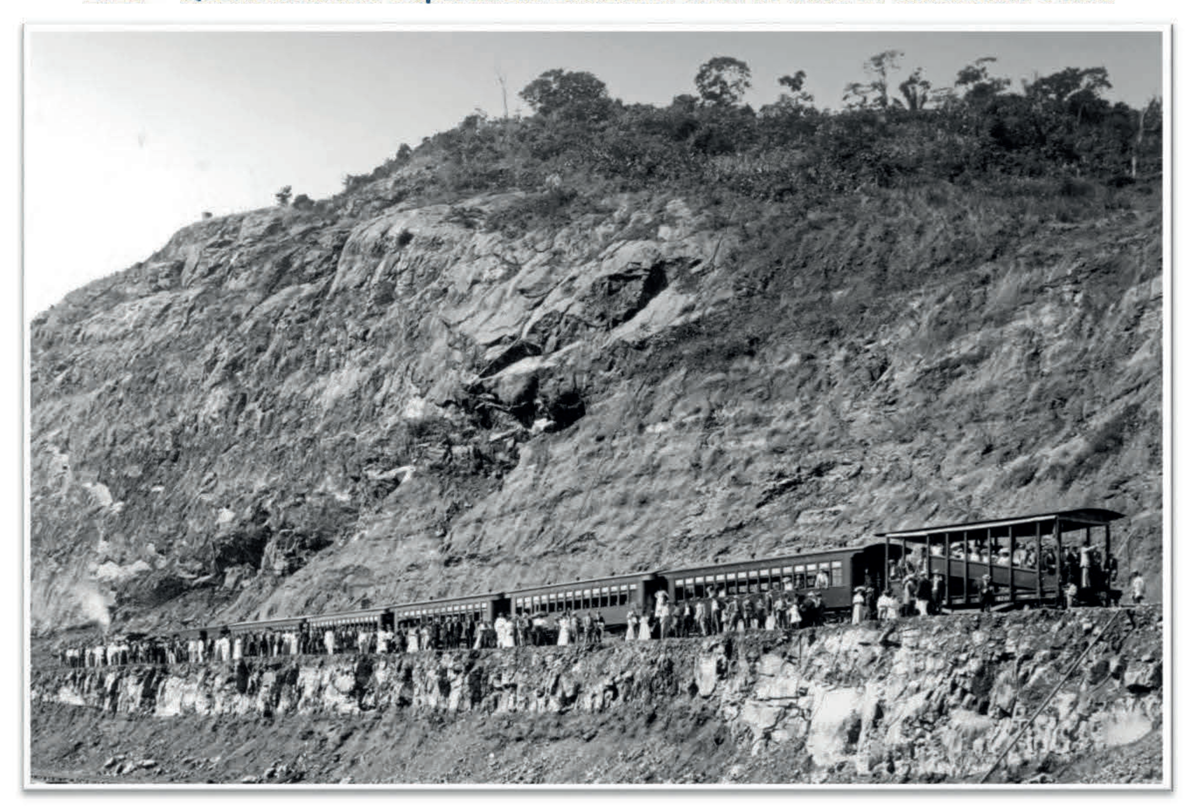


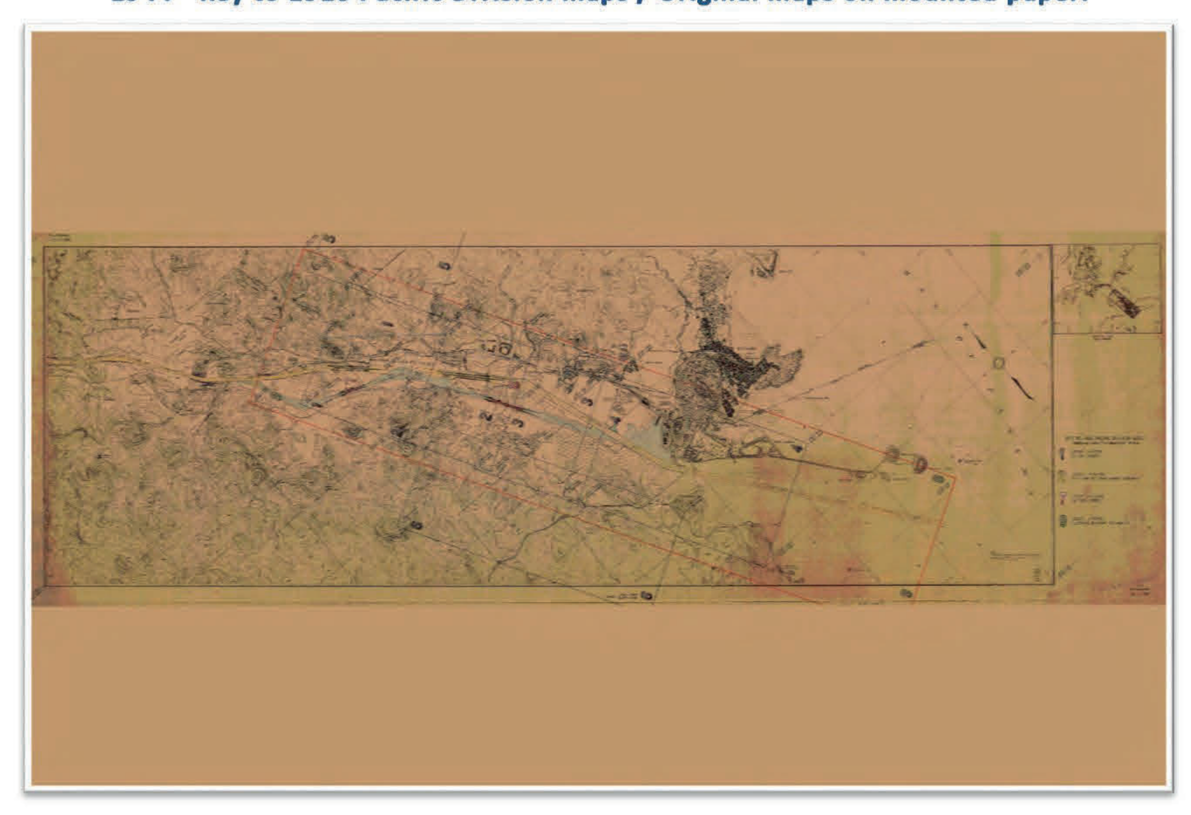
Imagen satelital del mapa histórico, sitios de interés y ubicación de la foto superior.



1910 - Quartermasters Department excursion train in front of Contractor's Hill.



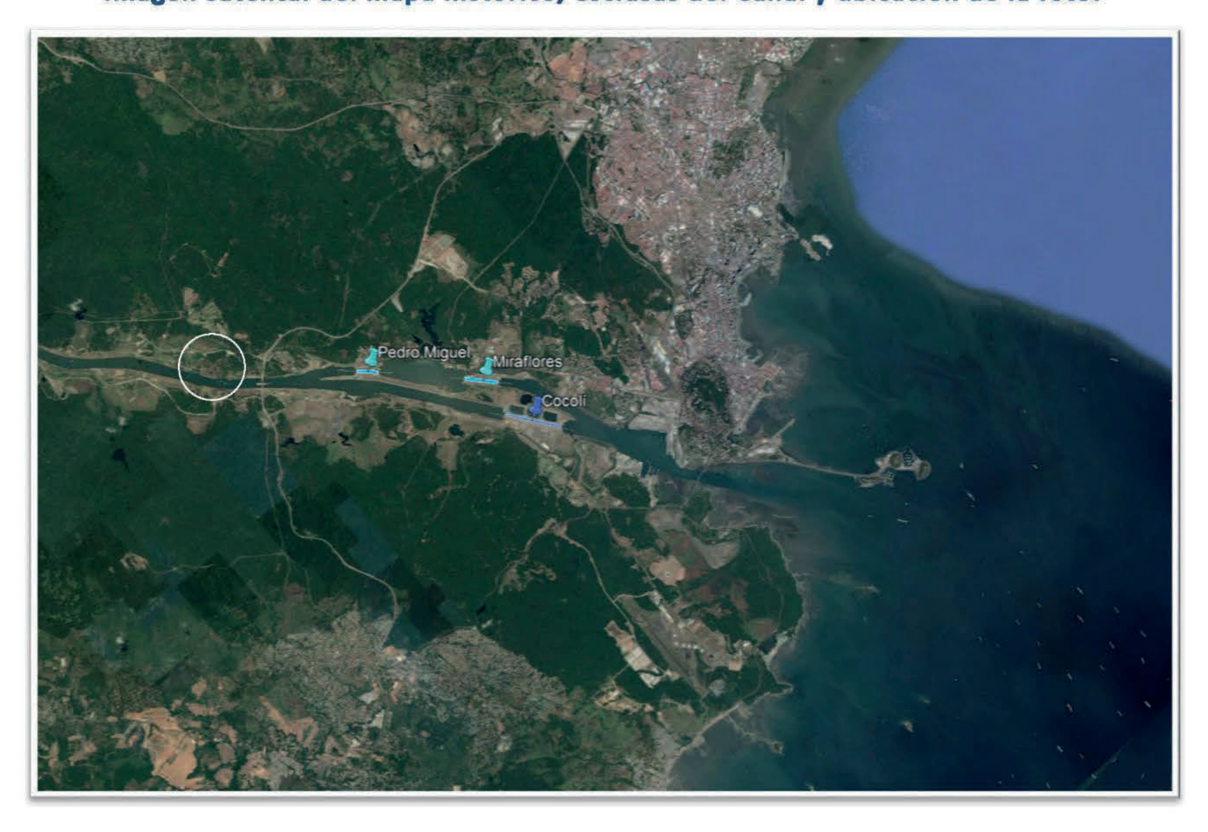
1944 - Key to 1910 Pacific Division maps / Original maps on mounted paper.



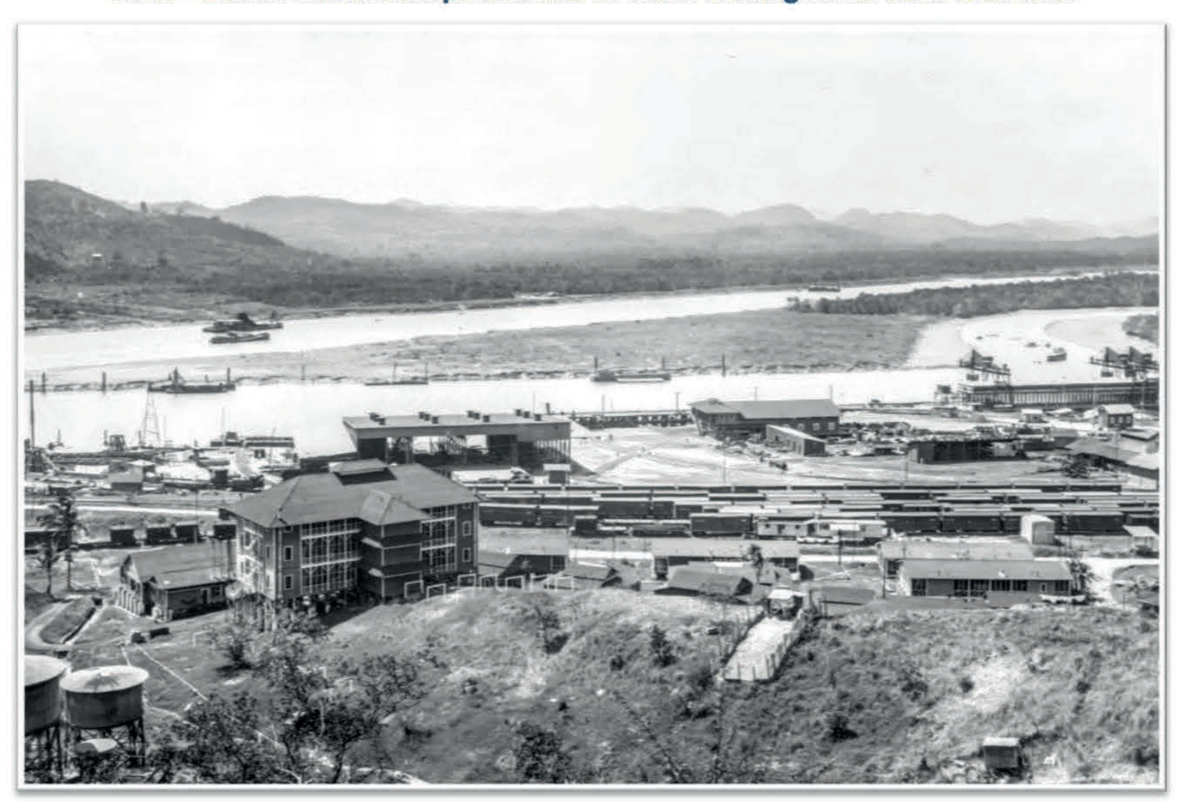
Cerro de Oro desde el cauce del Canal de Panamá. Vista en dirección noreste.



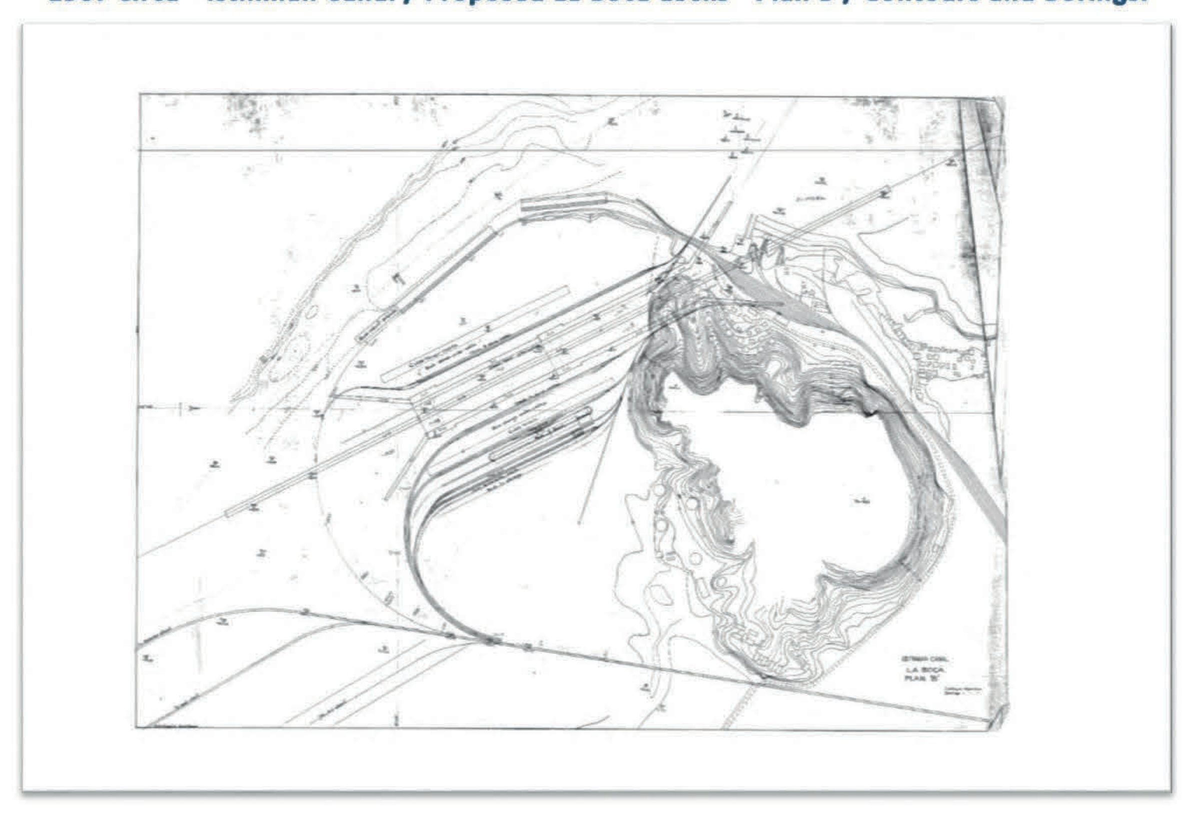
Imagen satelital del mapa histórico, esclusas del Canal y ubicación de la foto.



1911 - Balboa Marine Shops and axis of Canal looking north from Sosa Hill.



1907 circa - Isthmian Canal / Proposed La Boca Locks - Plan B / Contours and Borings.



Puerto de Balboa, entrada del Canal y PSA Panama International Terminal al fondo.



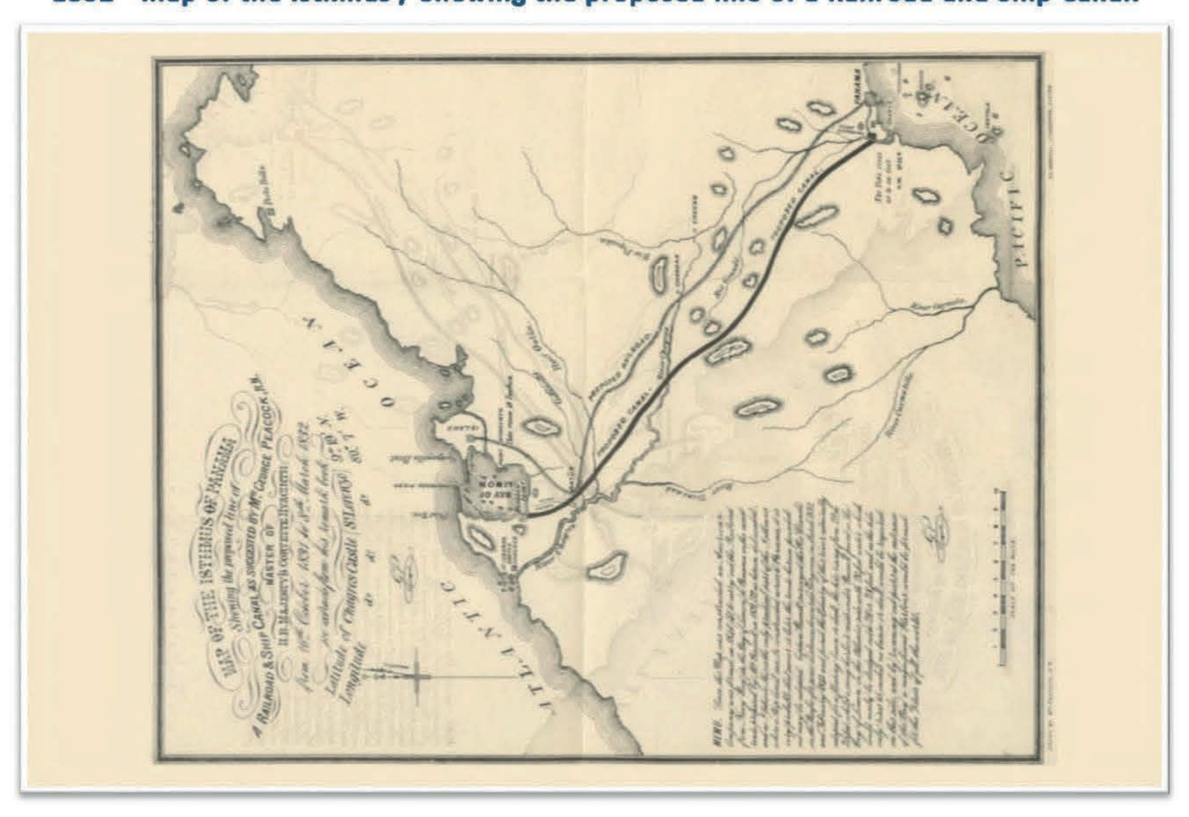
Imagen satelital del mapa histórico y ubicación de la foto superior.



1911 - Culebra Cut looking south. Between Gold and Contractor's Hills.



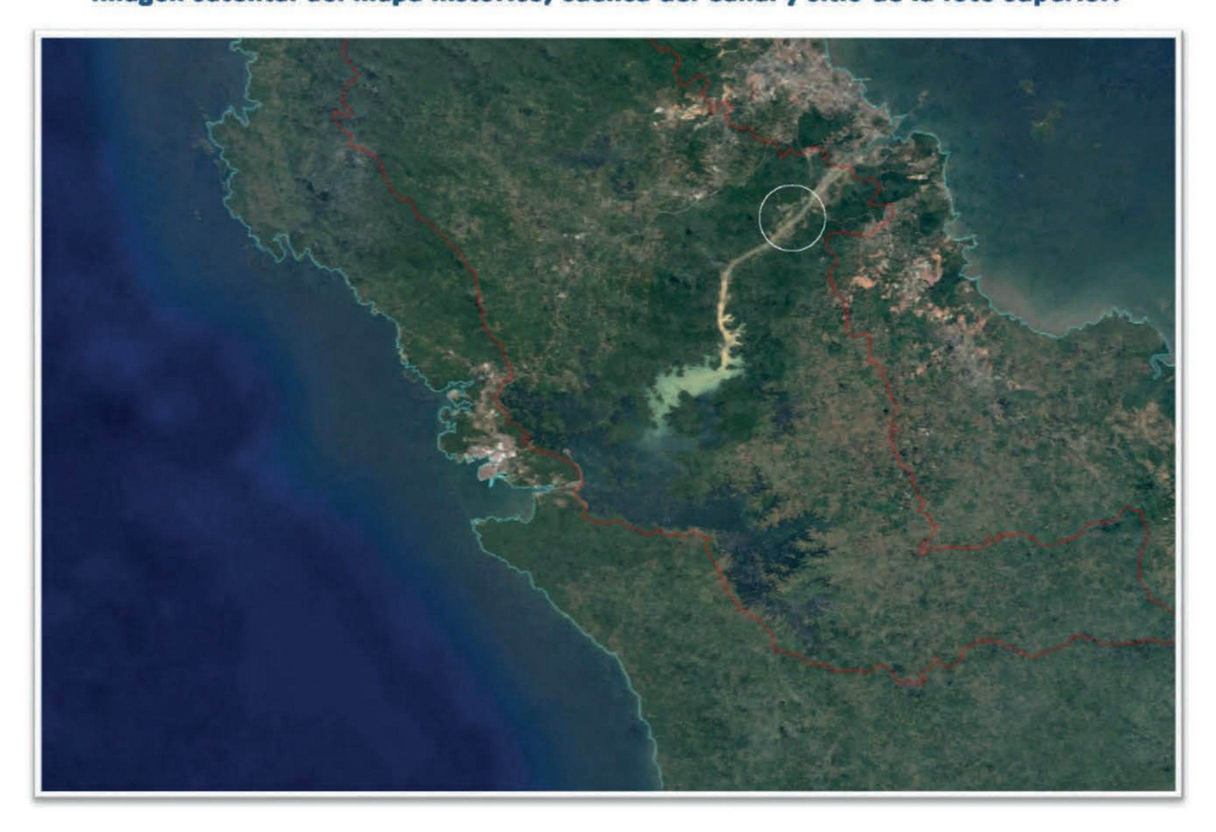
1832 - Map of the Isthmus / Shewing the proposed line of a Railroad and Ship Canal.



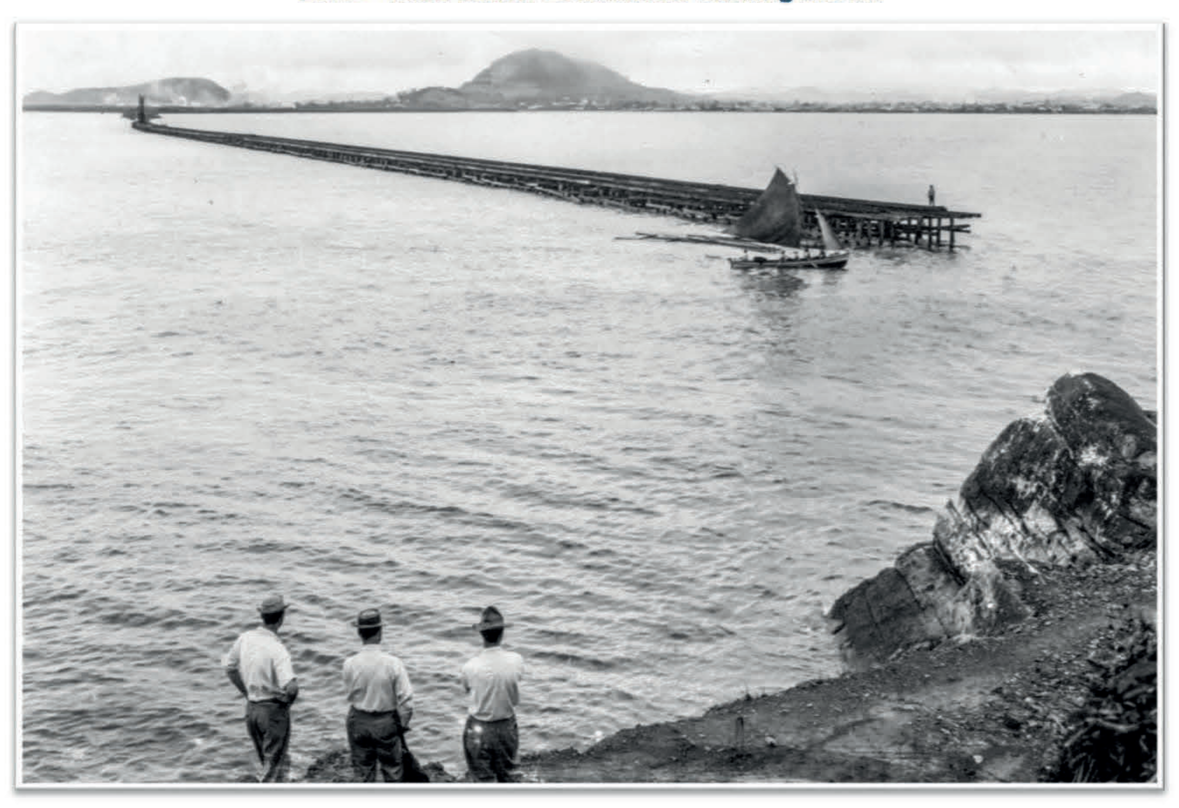
Viendo al sureste; cerro de Oro, cauce del Canal de Panamá y puente Centenario.



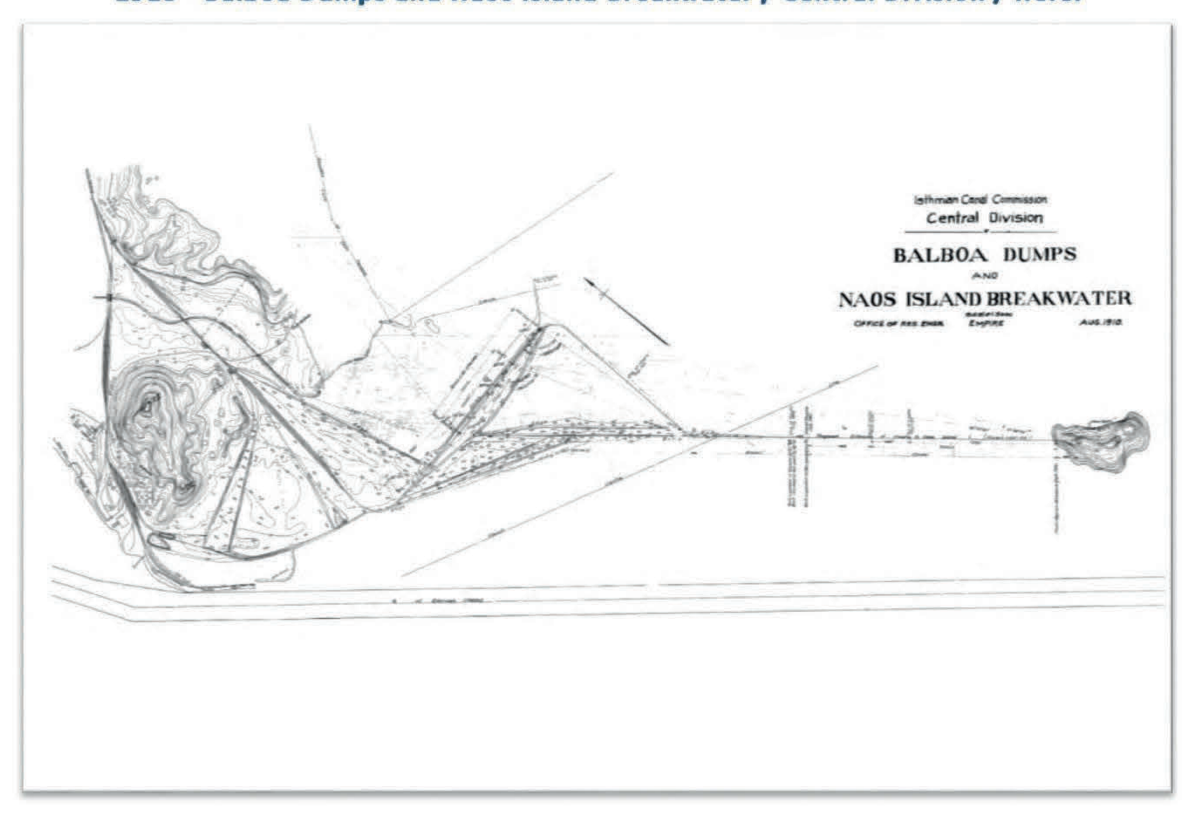
Imagen satelital del mapa histórico, cuenca del Canal y sitio de la foto superior.



1912 - Naos Island Breakwater looking north.



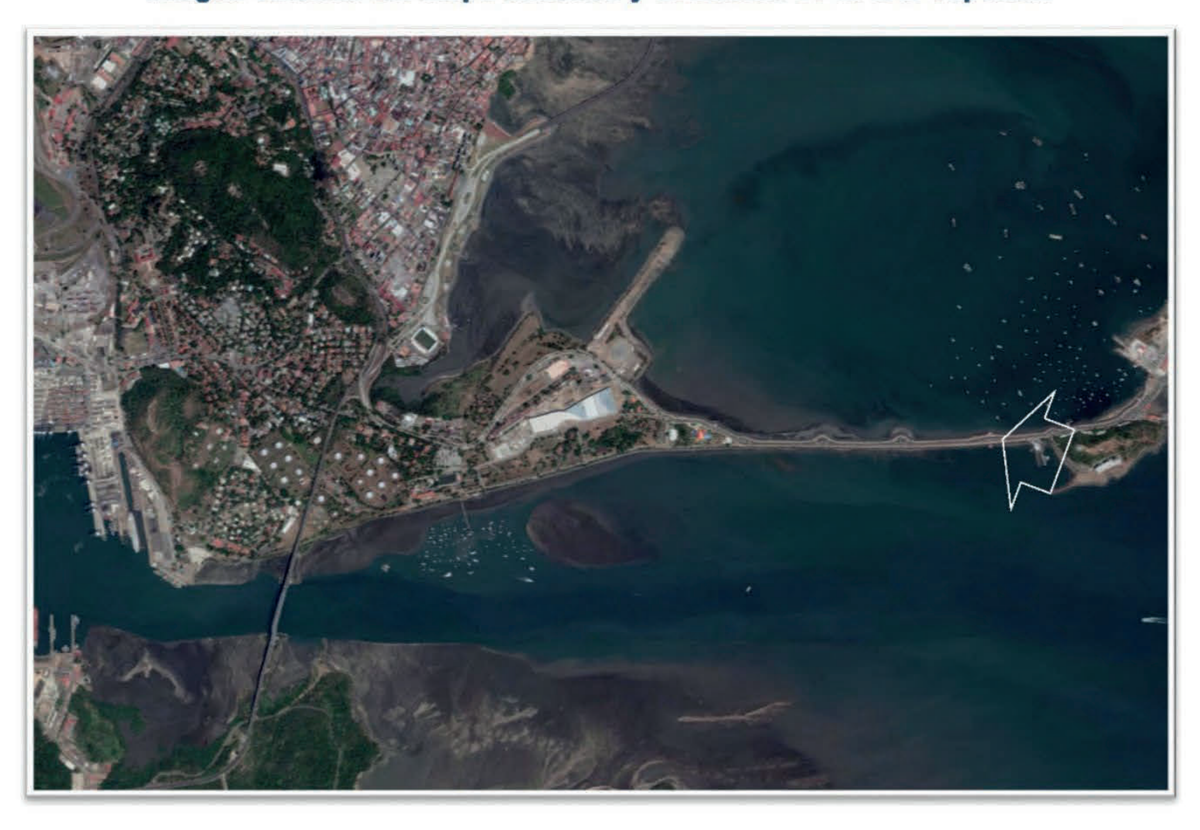
1910 - Balboa Dumps and Naos Island Breakwater / Central Division / I.C.C.



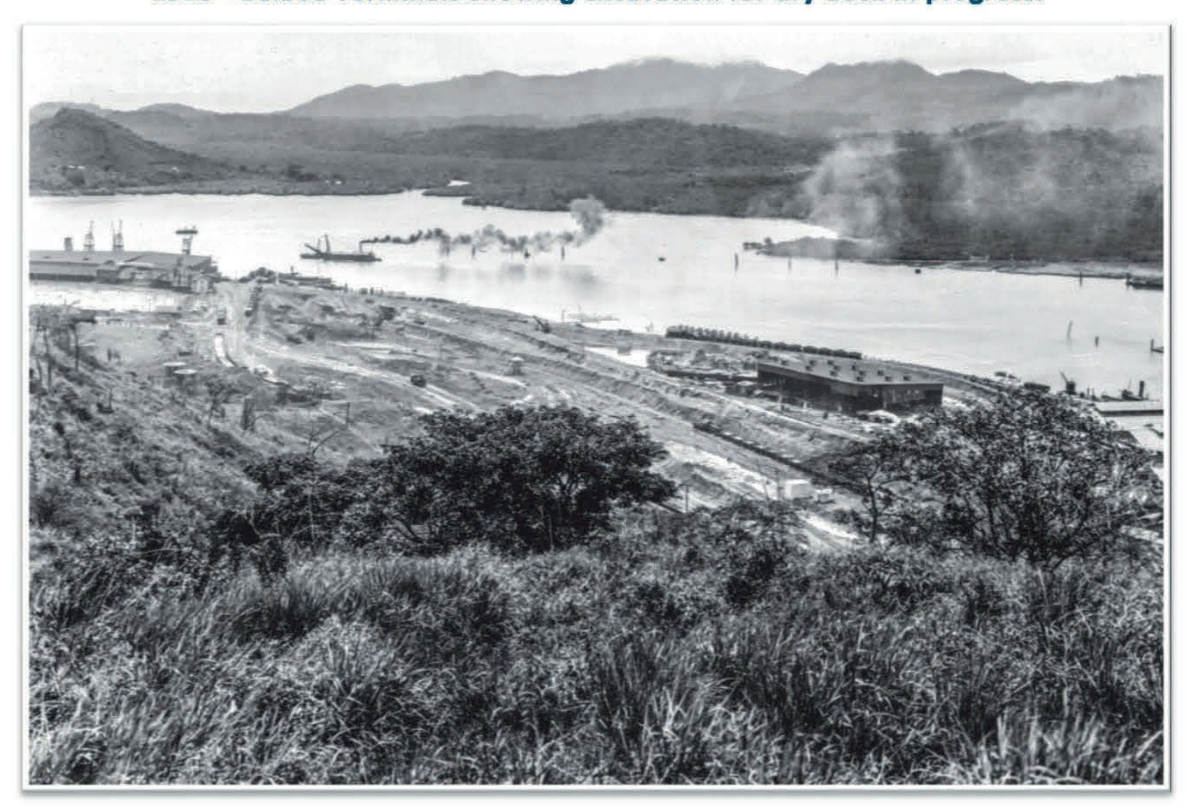
Facilidades de operaciones de tránsito de la ACP. Vista en dirección noroeste.



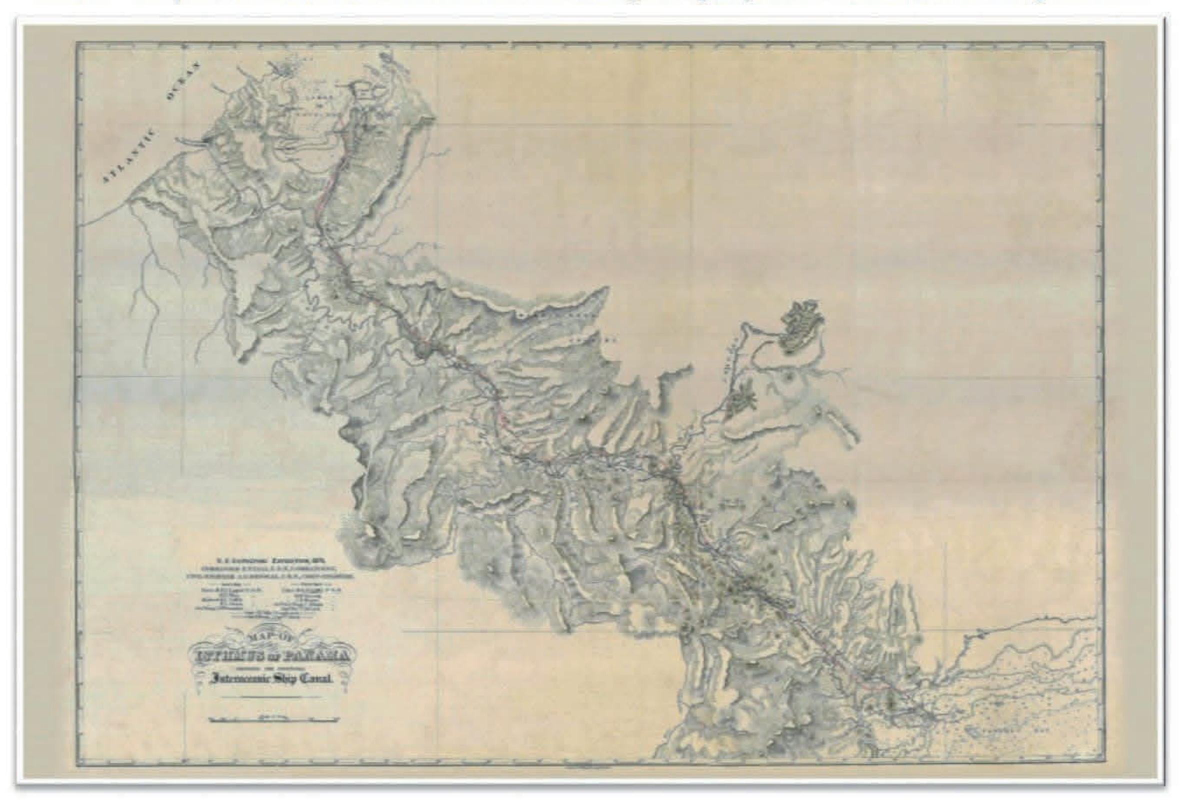
Imagen satelital del mapa histórico y ubicación de la foto superior.



1913 - Balboa Terminals showing excavation for dry dock in progress.



1875 - Map of the Isthmus of Panama showing the proposed Interoceanic Ship Canal.



Puertos de Balboa (corregimiento de Ancón) y Rodman (corregimiento de Arraijan).

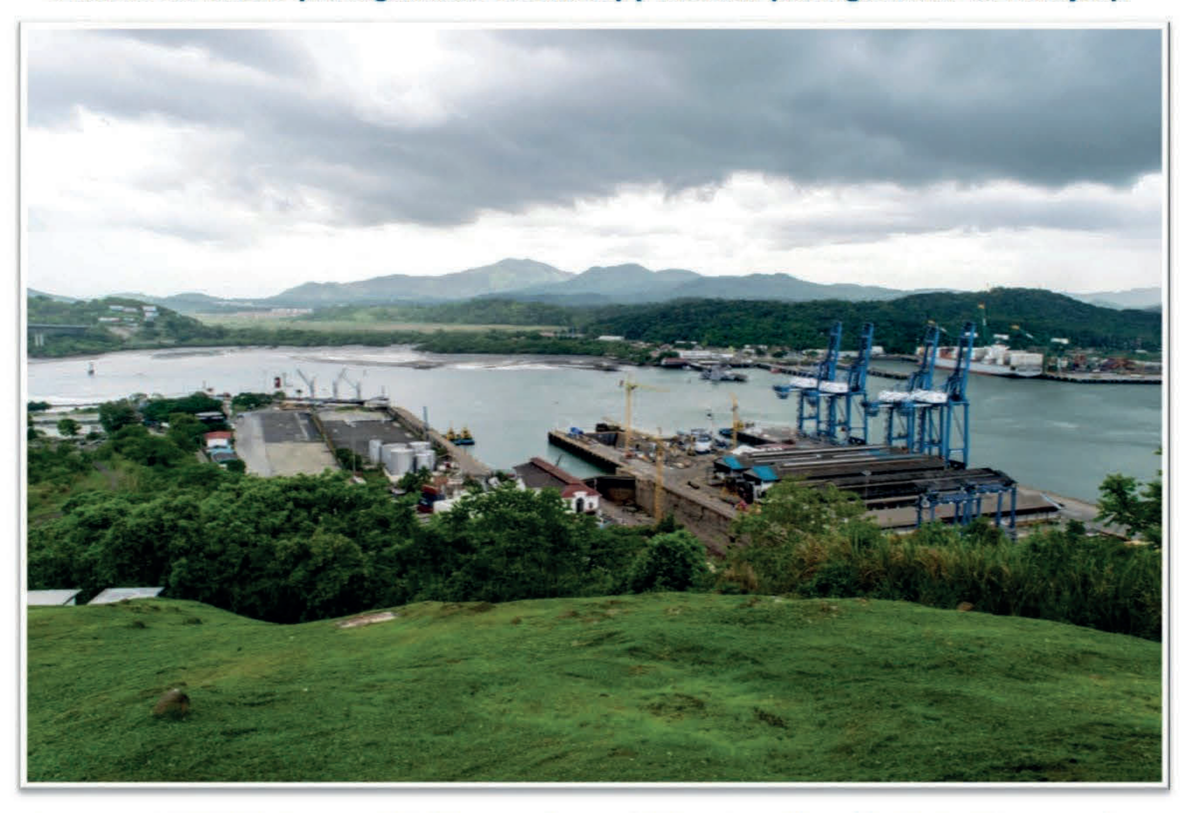


Imagen satelital del mapa histórico, esclusas del Canal y ubicación de la foto superior.



1913 - Naos and Culebra Island from Flamenco Island.



1911 - Isthmian Canal Commission / Contour map of Naos Island / Contour Interval 5'.



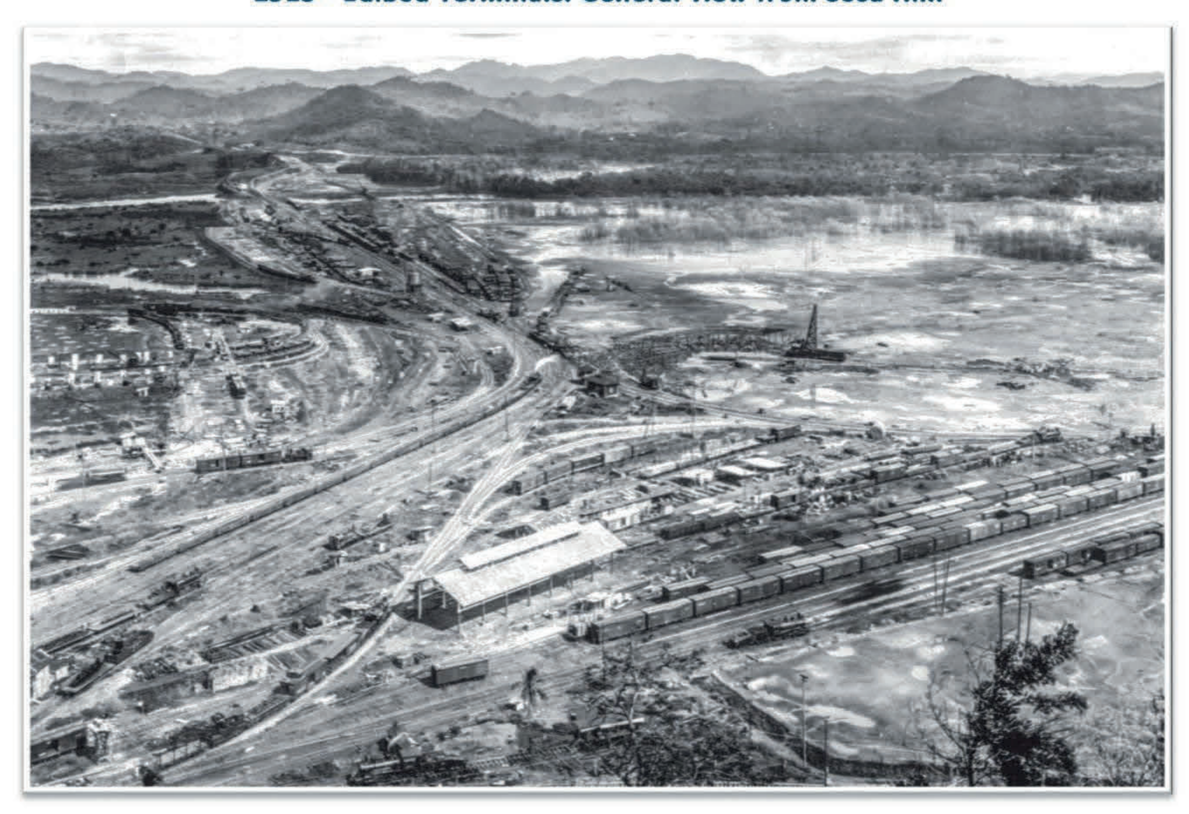
Entrada al Canal e isla Naos desde la isla Flamenco. Vista en dirección noroeste.



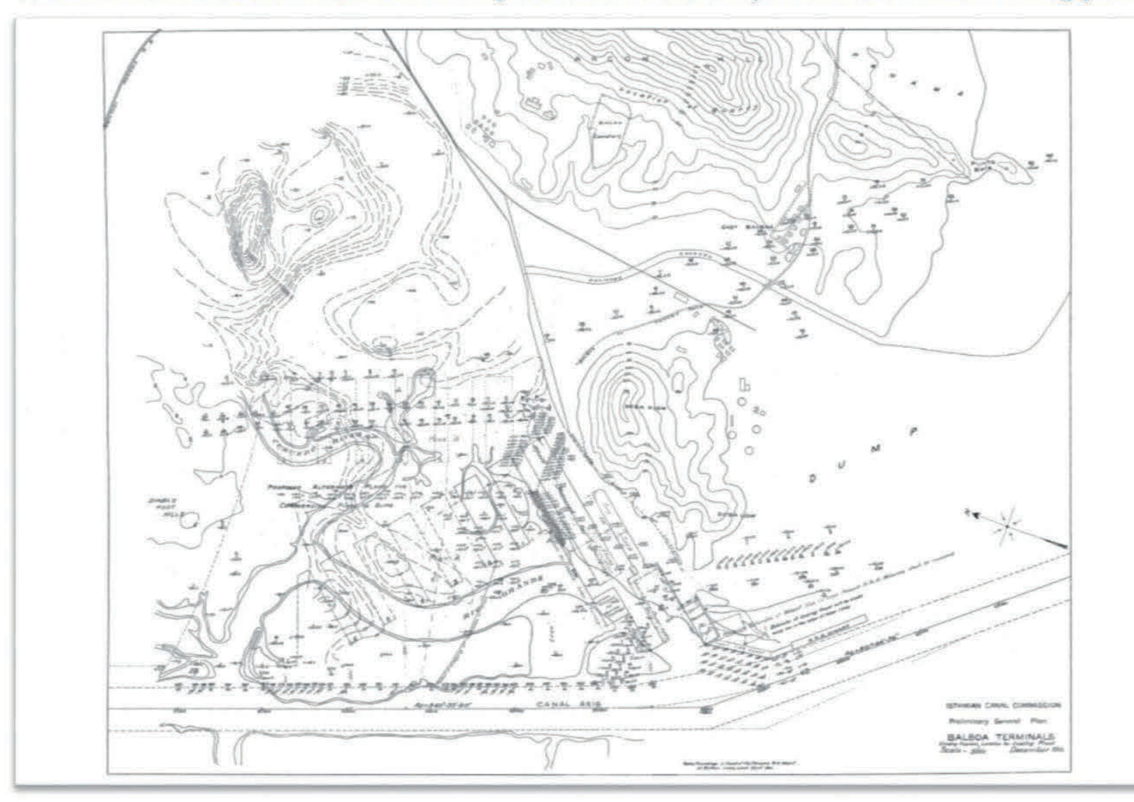
Imagen satelital del mapa histórico.



1913 - Balboa Terminals. General view from Sosa Hill.



1911 - Balboa Terminals / Preliminary General Plan / Proposed location of coaling plant.



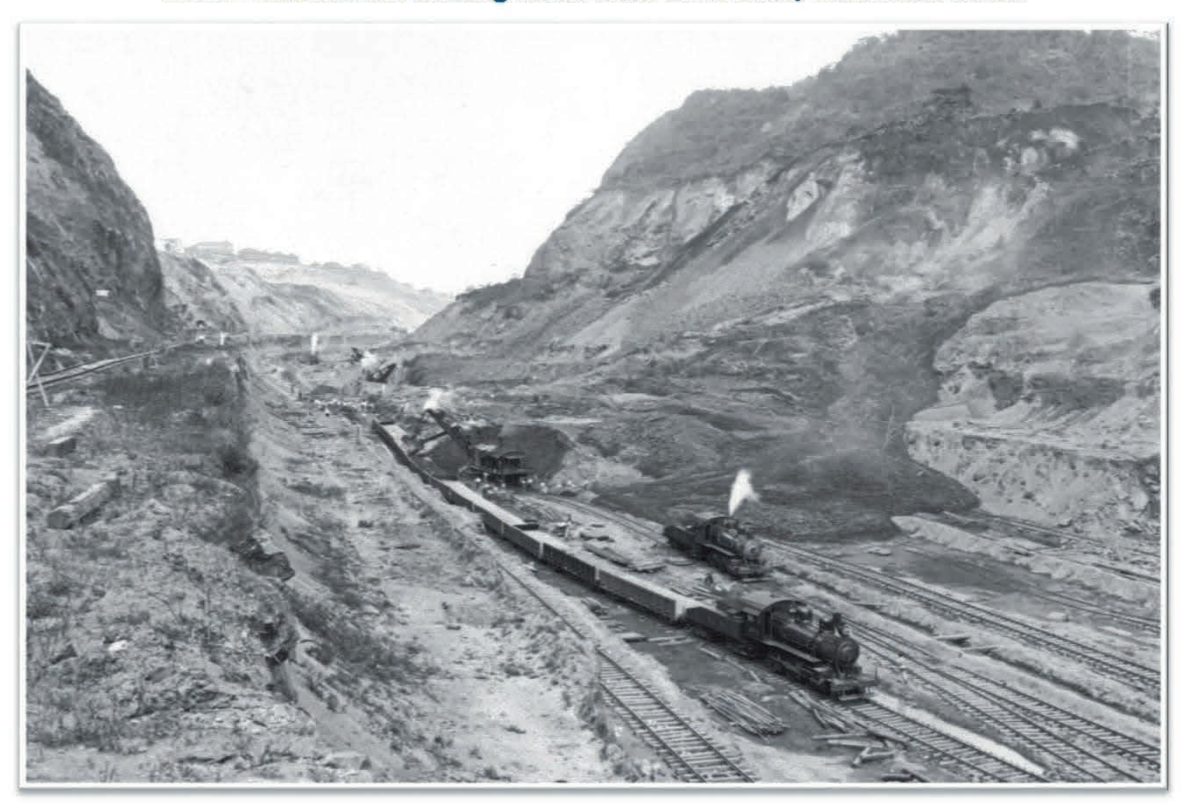
Terminal de contenedores y aeropuerto de Albrook. Vista en dirección noreste.



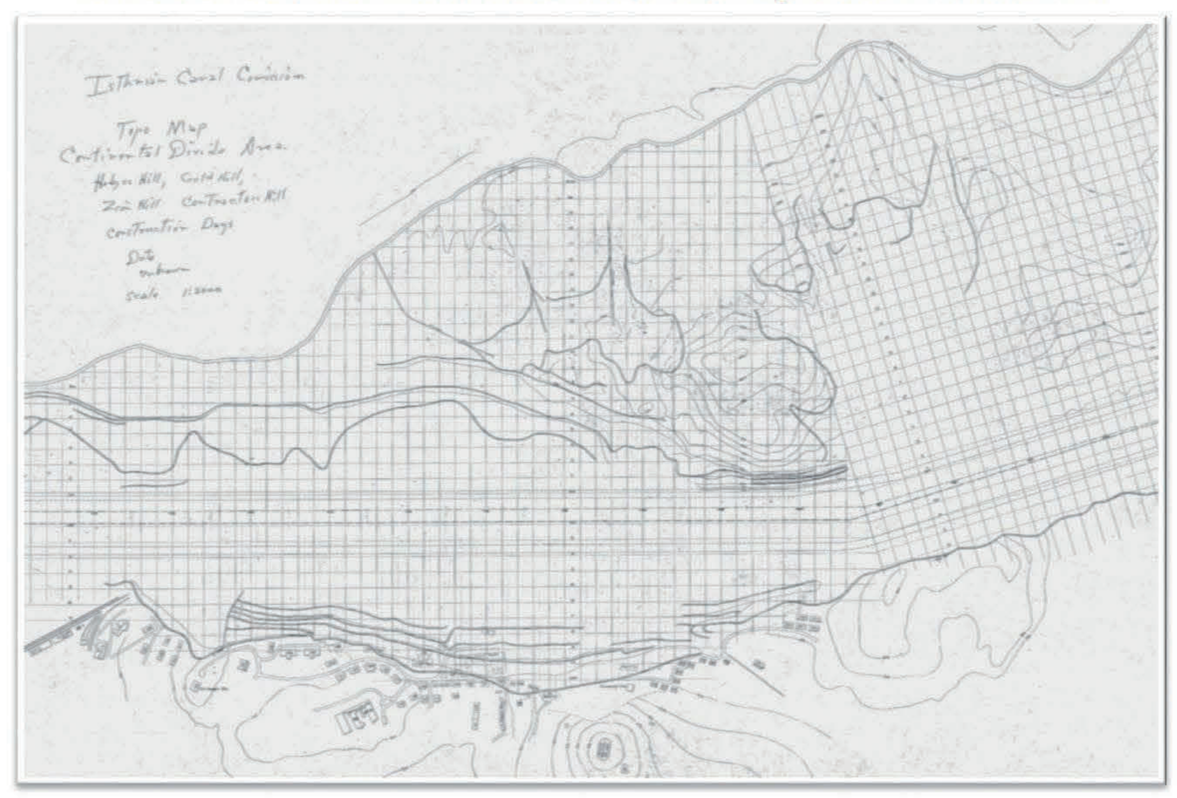
Imagen satelital del mapa histórico y ubicación de la foto superior.



1913 - Culebra Cut looking north from west bank; Cucaracha Slide.



1906 circa - Continental Divide Area / Gold, Zion, Hodges and Contractors Hills.



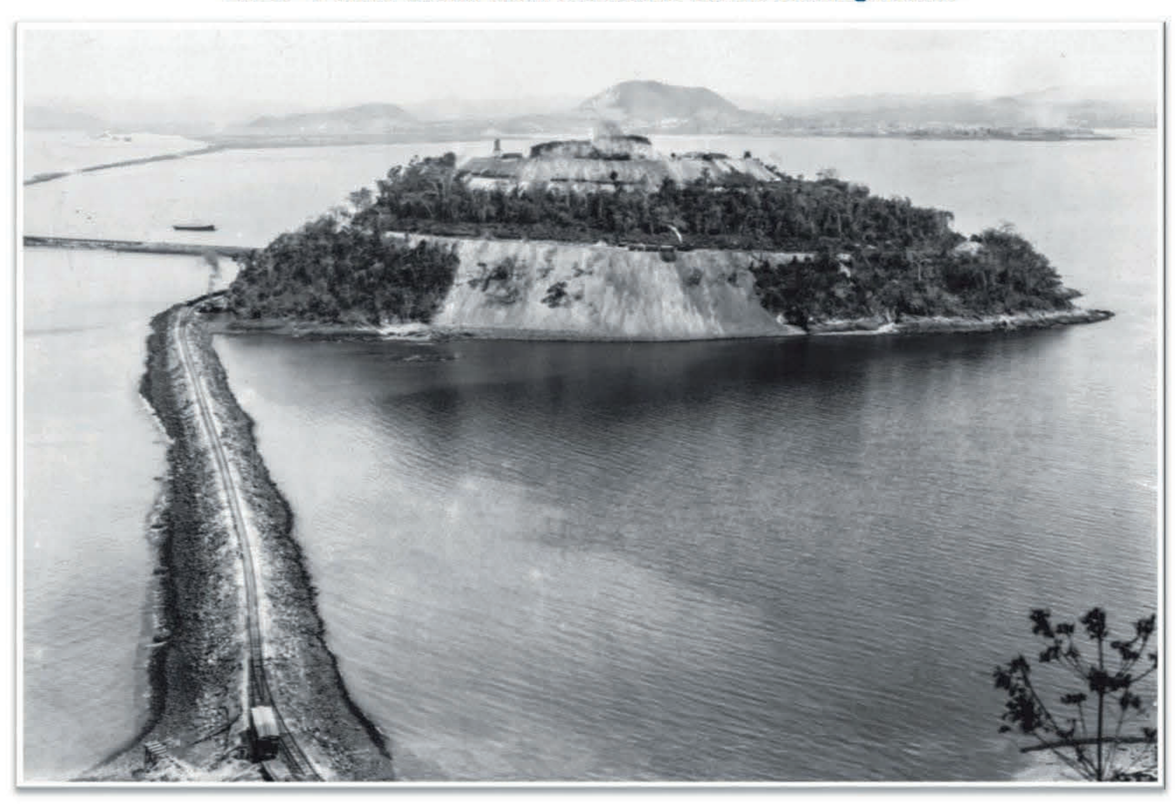
Corte Culebra y cerro de Oro desde el lado oeste del Canal. Vista en dirección noroeste.



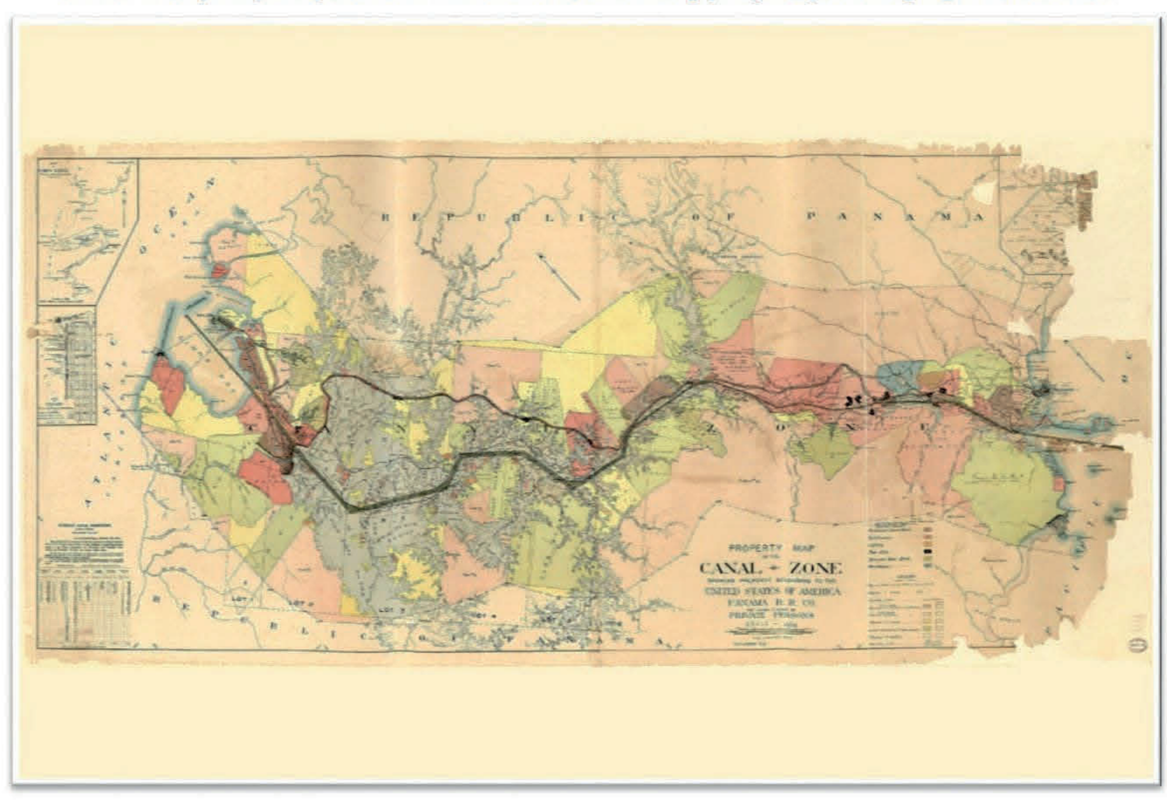
Imagen satelital del mapa histórico.



1913 - Perico Island from Flamenco Island looking north.



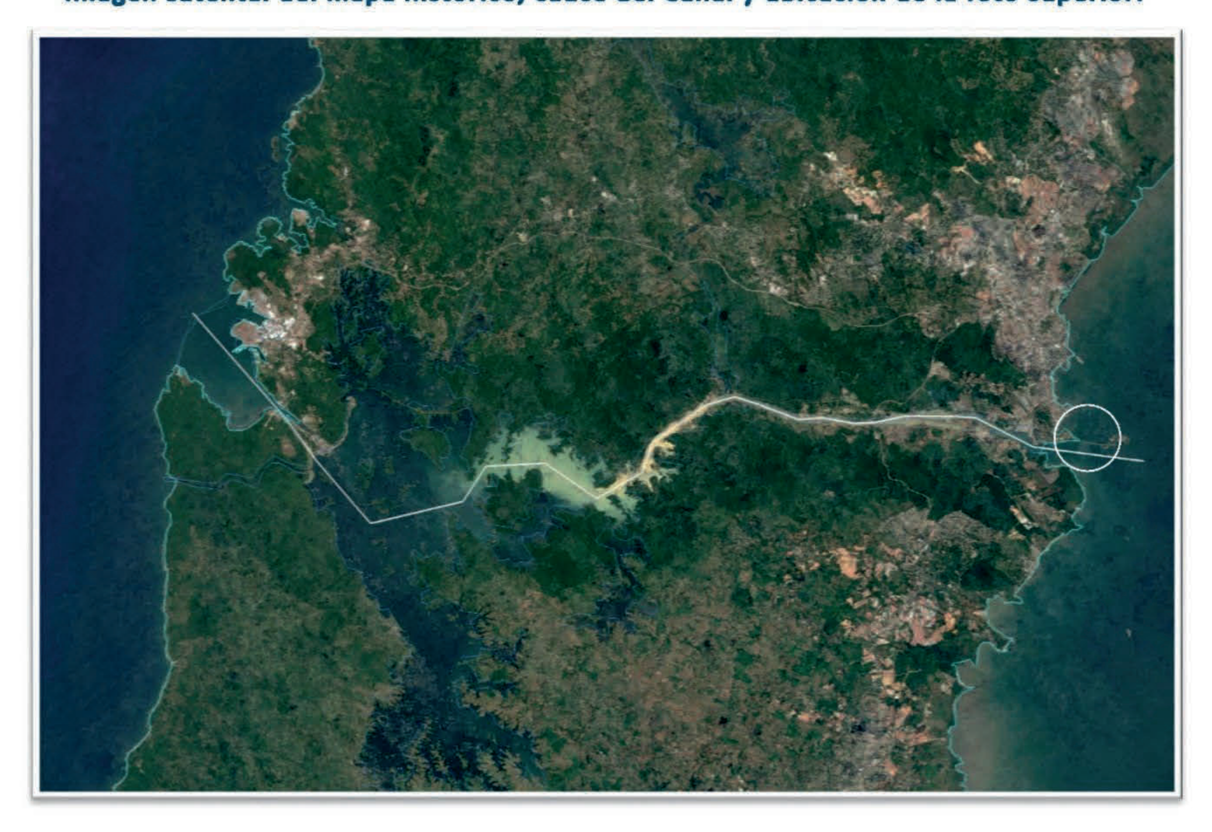
1912 - Property map of the Canal Zone / Showing property belonging to the USA.



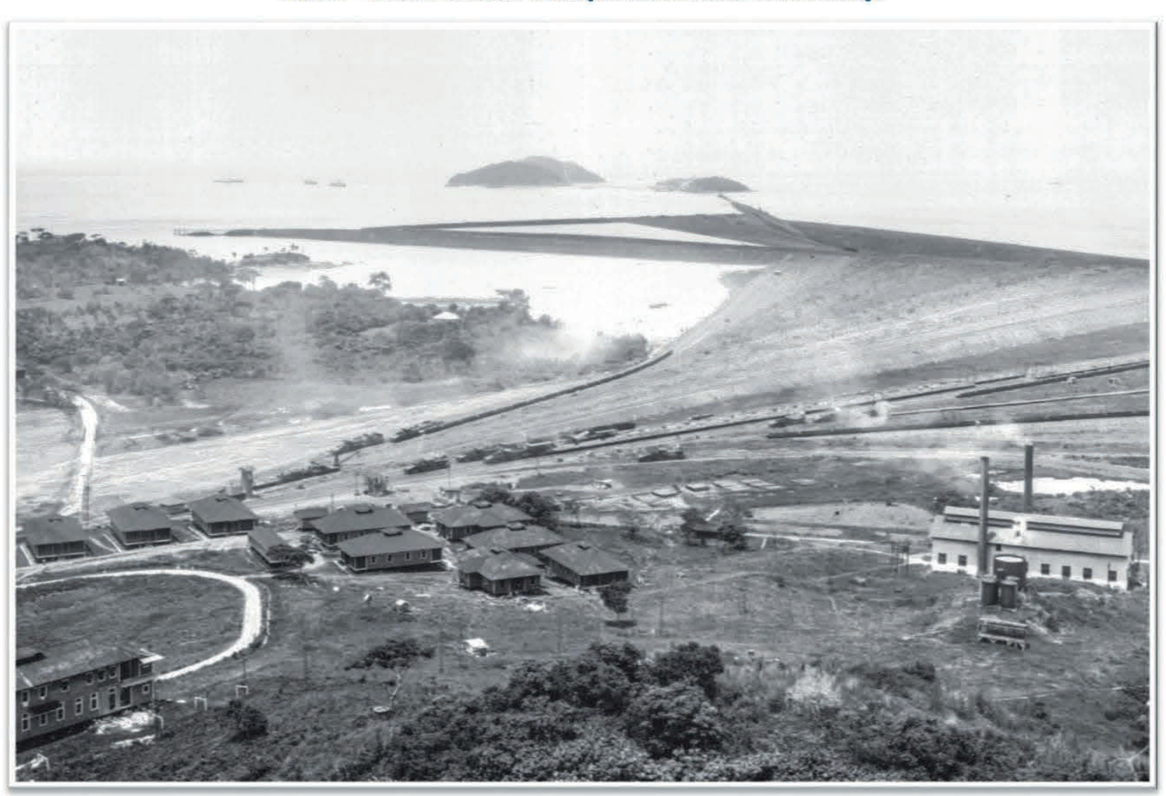
Isla Perico desde Isla Flamenco con el cerro Ancón al fondo. Vista en dirección noroeste.



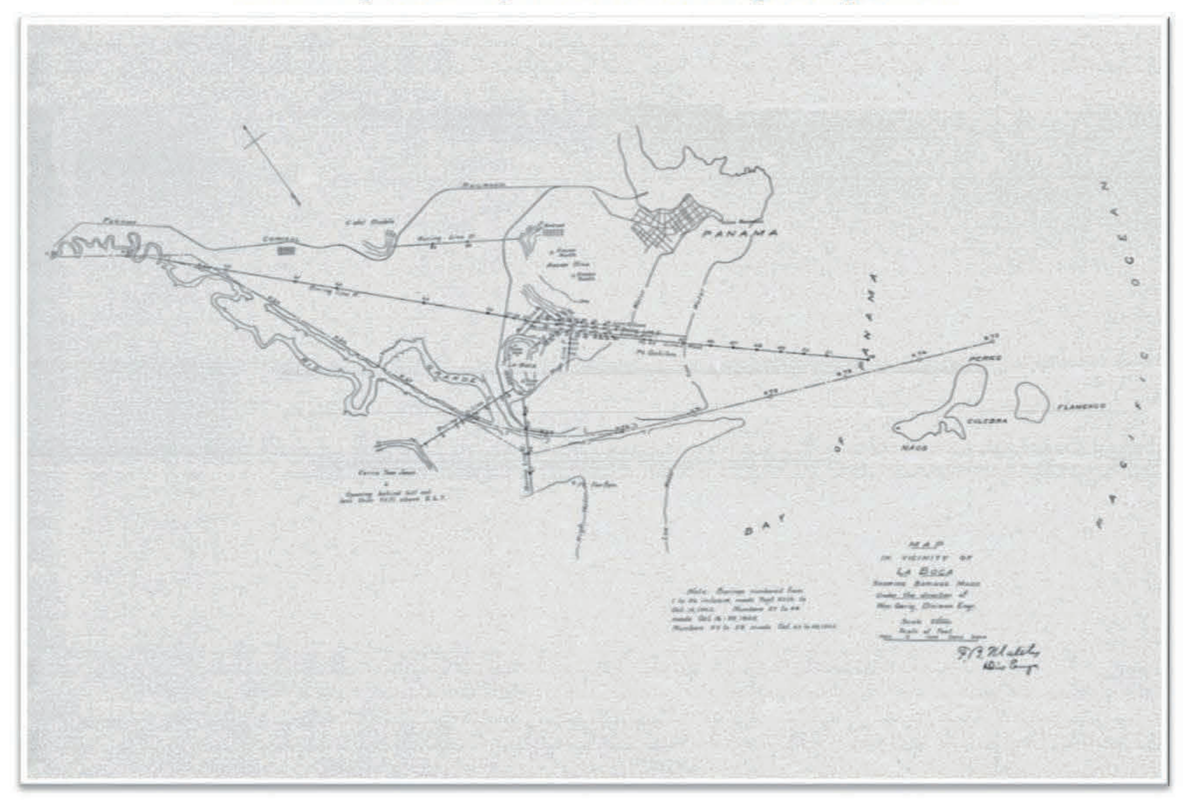
Imagen satelital del mapa histórico, cauce del Canal y ubicación de la foto superior.



1913 - East Balboa Dumps and Naos Causeway.



1905 - Map in vicinity of La Boca showing borings made.



Poblados de Balboa, La Boca y Amador desde cerro Sosa. Vista en dirección sureste.

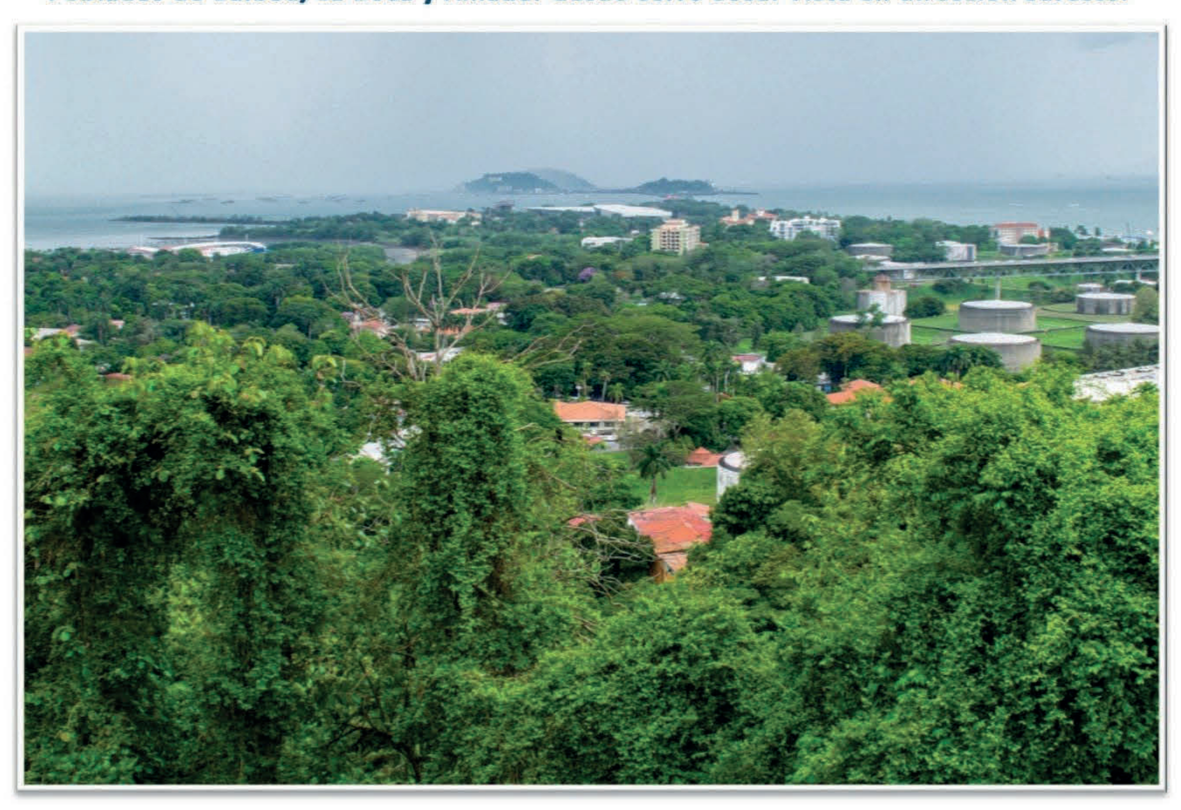


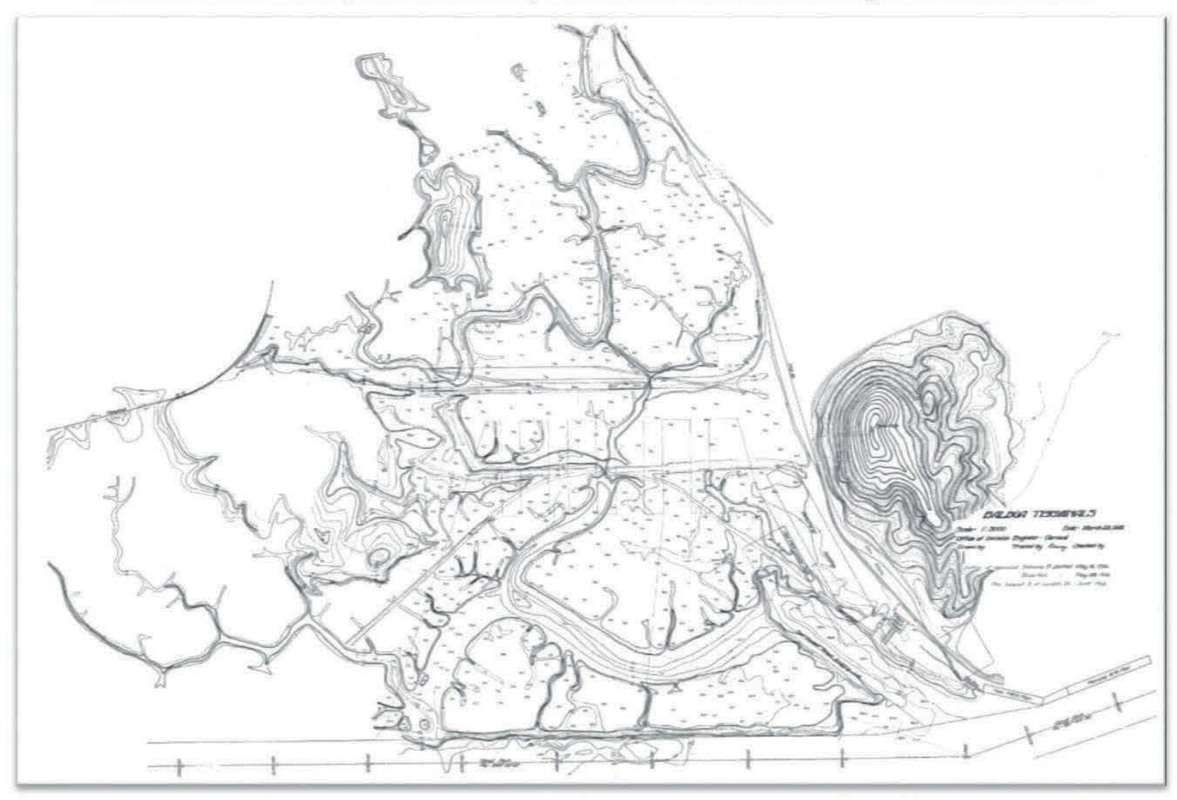
Imagen satelital del mapa histórico, esclusas del Canal y ubicación de la foto superior.



1913 - Balboa Terminals. View showing foundry, lumber & equipment shed and car shop.



1912 - Balboa Terminals. Drawn by the Office of Division Engineer at Corozal.



Viendo al noroeste; puerto de Balboa con las esclusas de Cocolí y Miraflores al fondo.

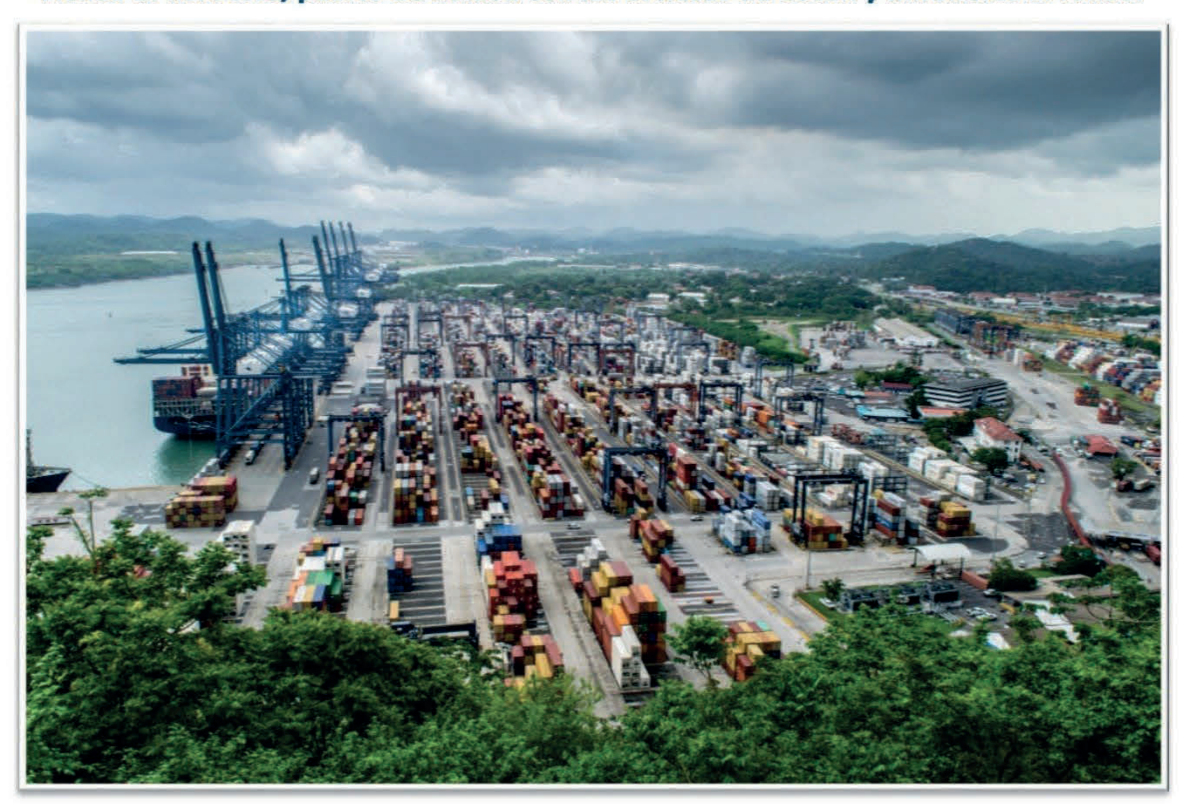
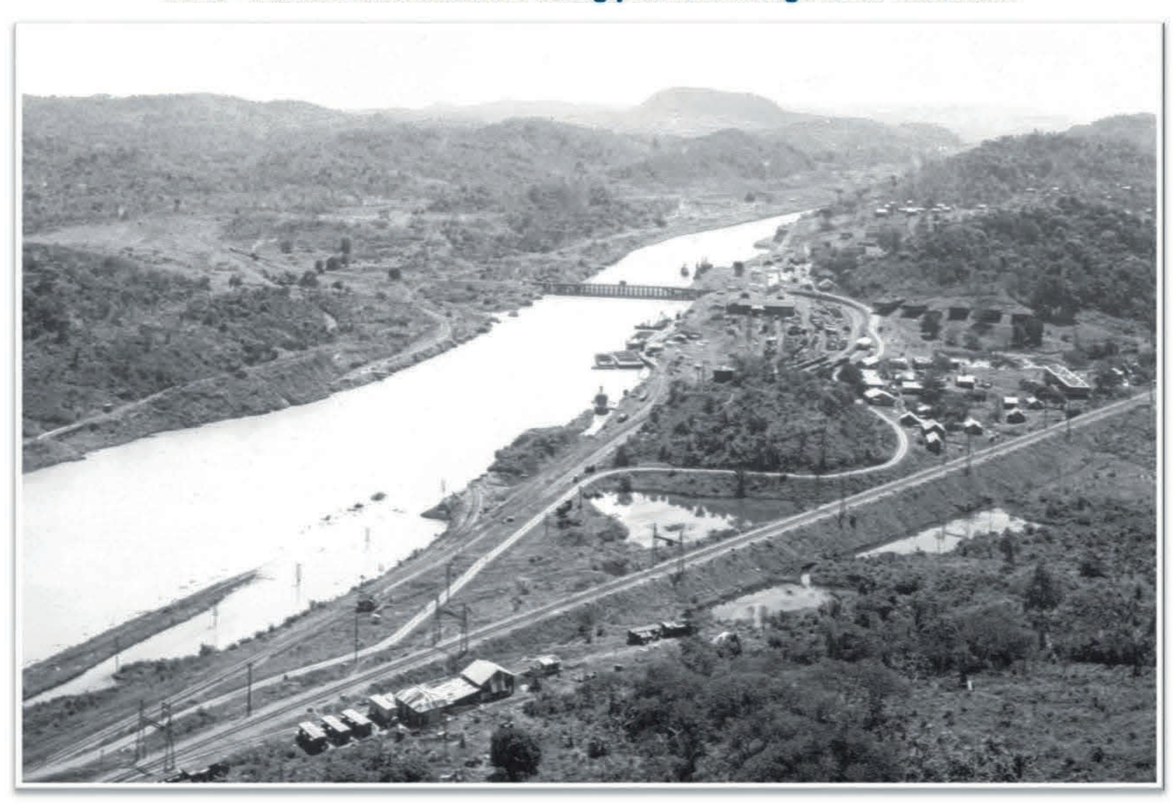


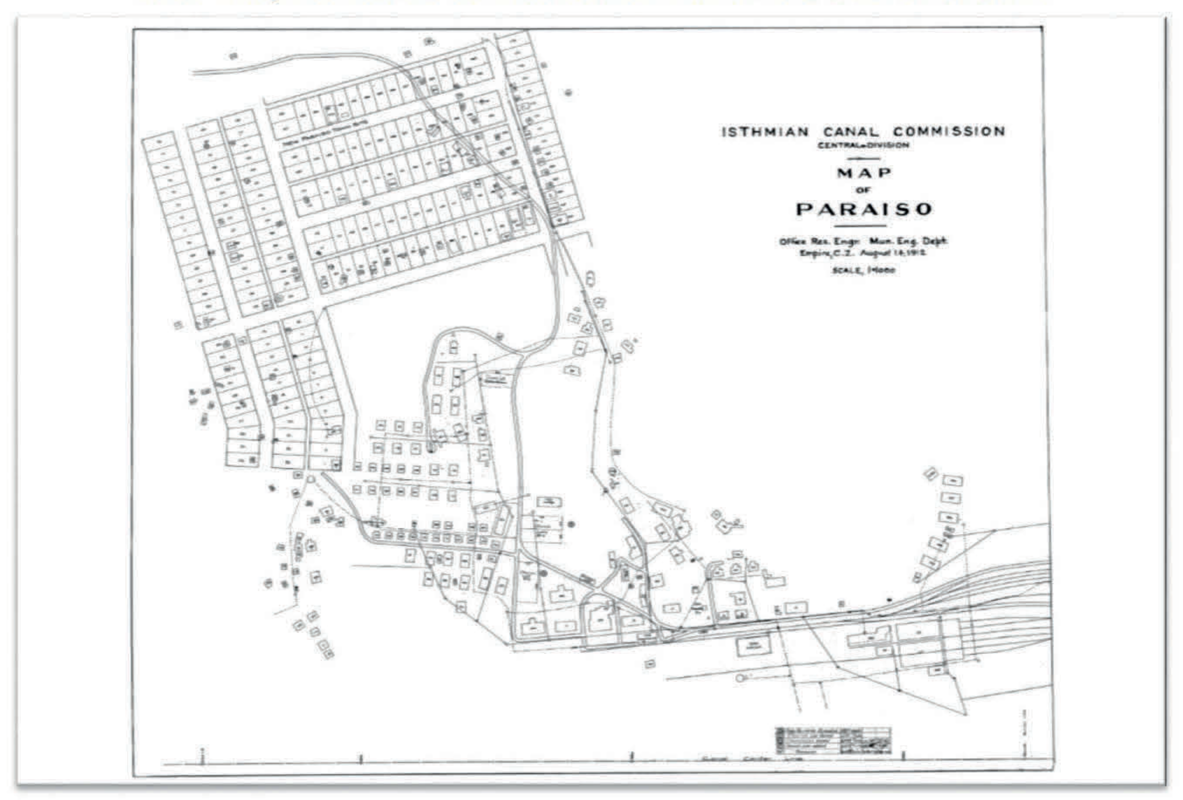
Imagen satelital del mapa histórico y ubicación de la foto superior.



1914 - Paraiso with Railroad swing pontoon bridge from Luisa Hill.



1912 - Map of Paraiso / Isthmian Canal Commission / Central Division.



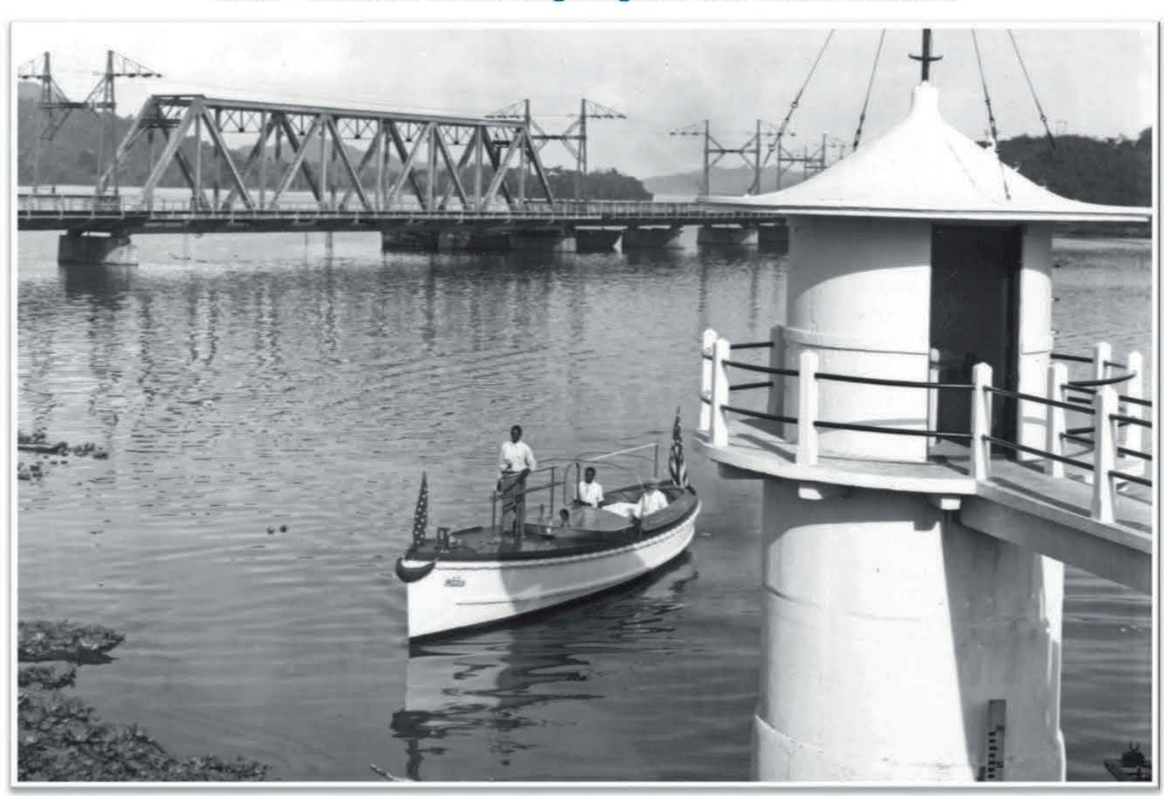
Viendo al noroeste; Corte Culebra desde cerro Luisa con el puente Centenario al fondo.



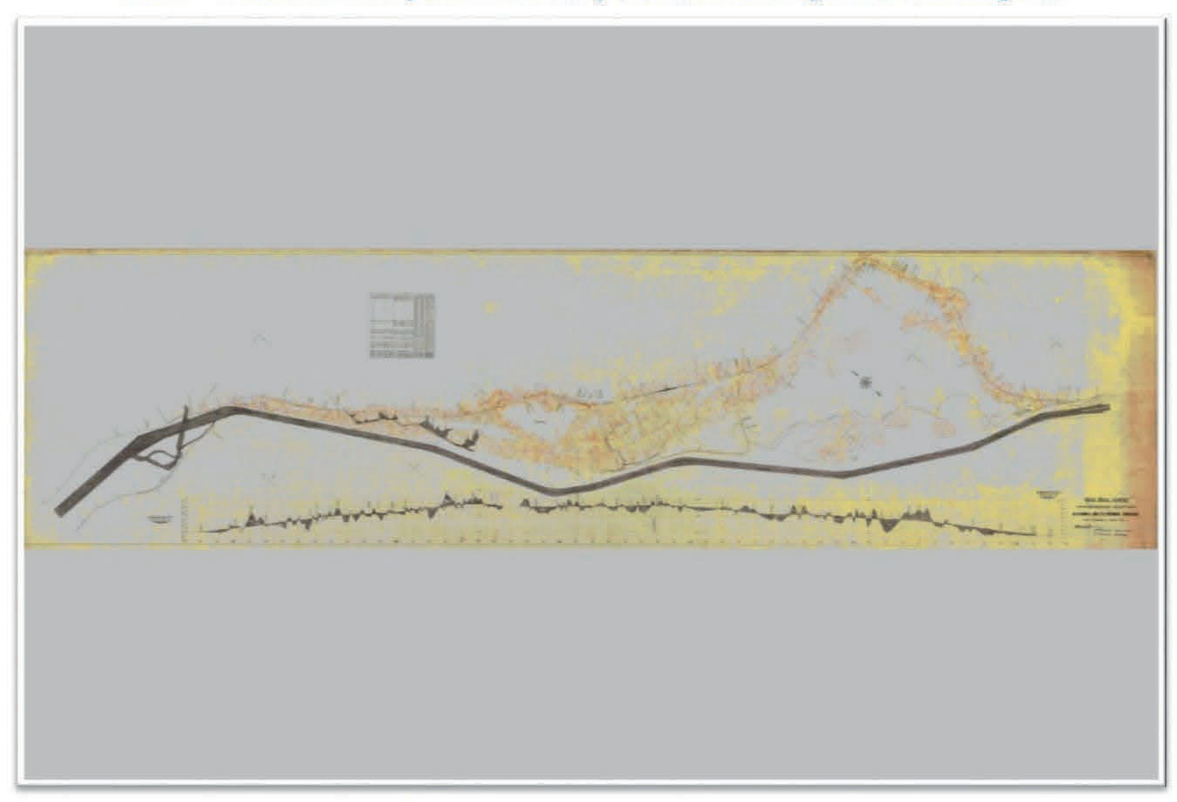
Imagen satelital del mapa histórico.



1915 - Gamboa. Water stage register and launch Priscilla.



1911 - Gold Hill Survey / General Map / Gamboa Bridge to Pedro Miguel.



Puente de Gamboa y estación limnigráfica de la ACP. Vista en dirección oeste.

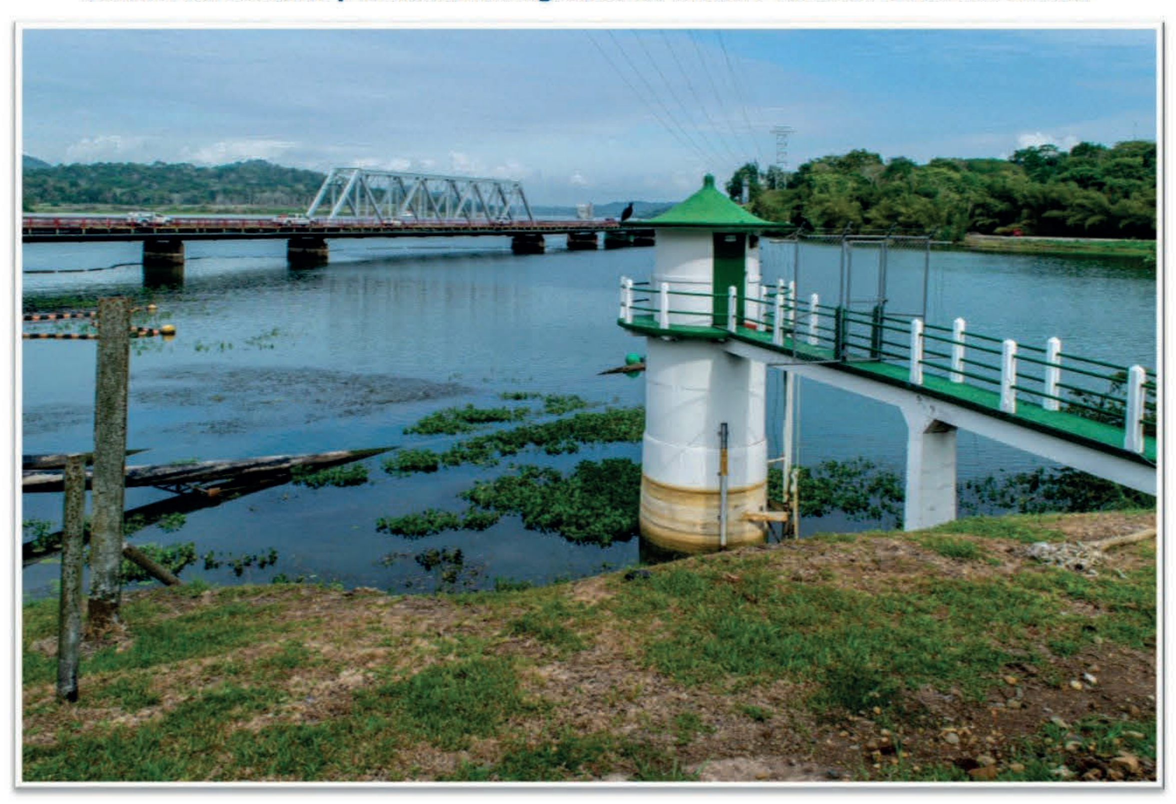
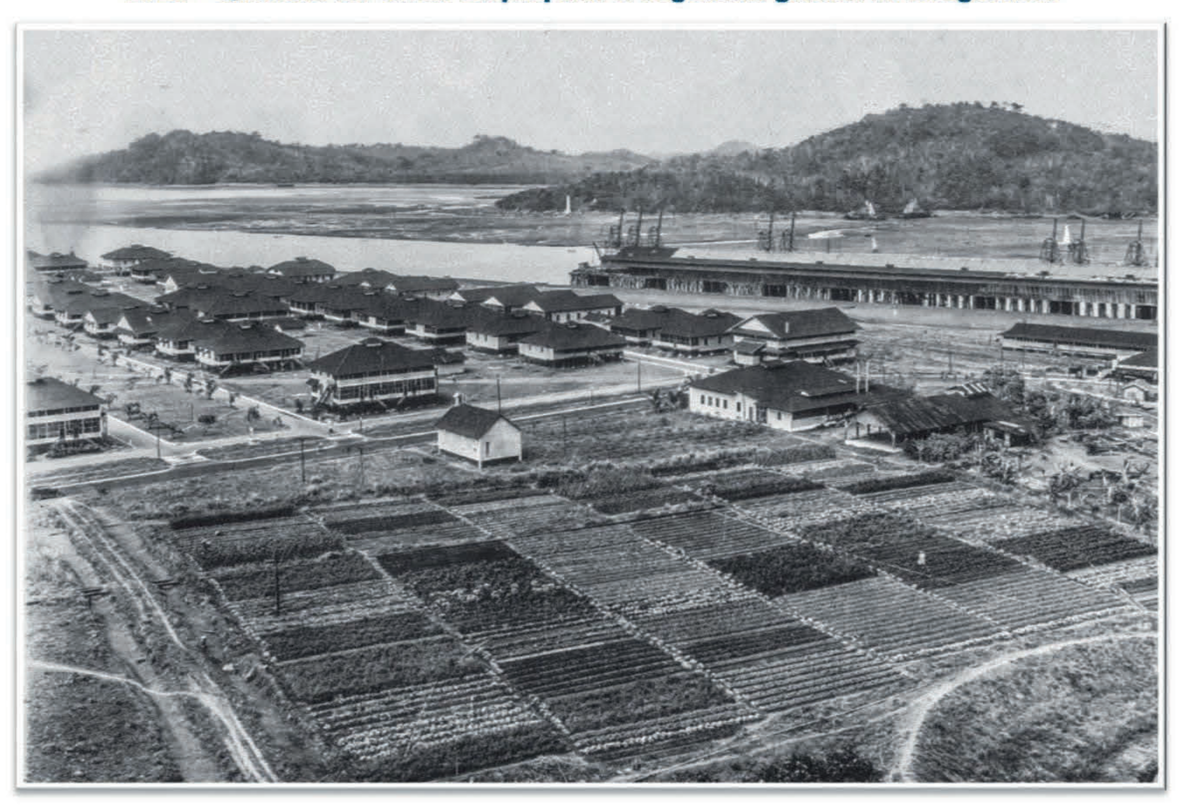


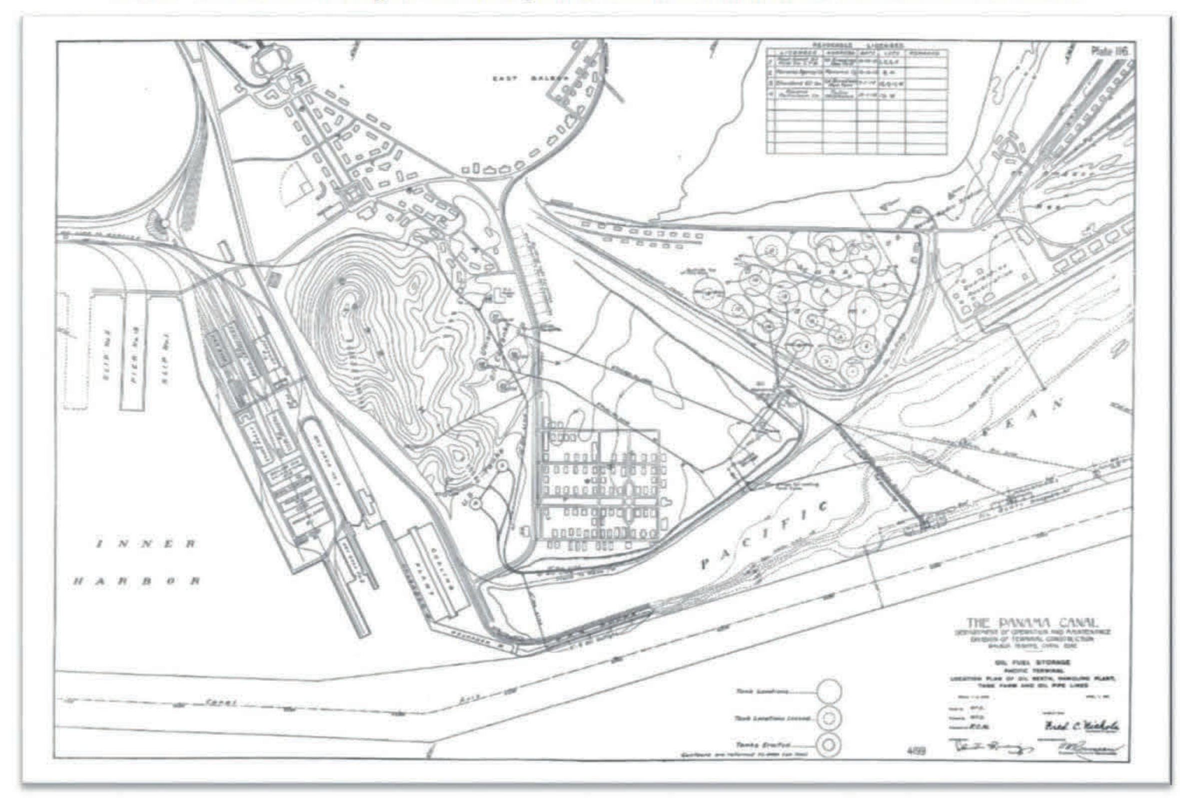
Imagen satelital del mapa histórico y ubicación de la foto superior.



1920 - Quarters for Silver Employees. A vegetable garden in foreground.



1915 - Oil Fuel Storage location plan / Pacific Terminal / The Panama Canal.



Viendo al suroeste; poblado de La Boca y Puente de las Américas desde cerro Sosa.

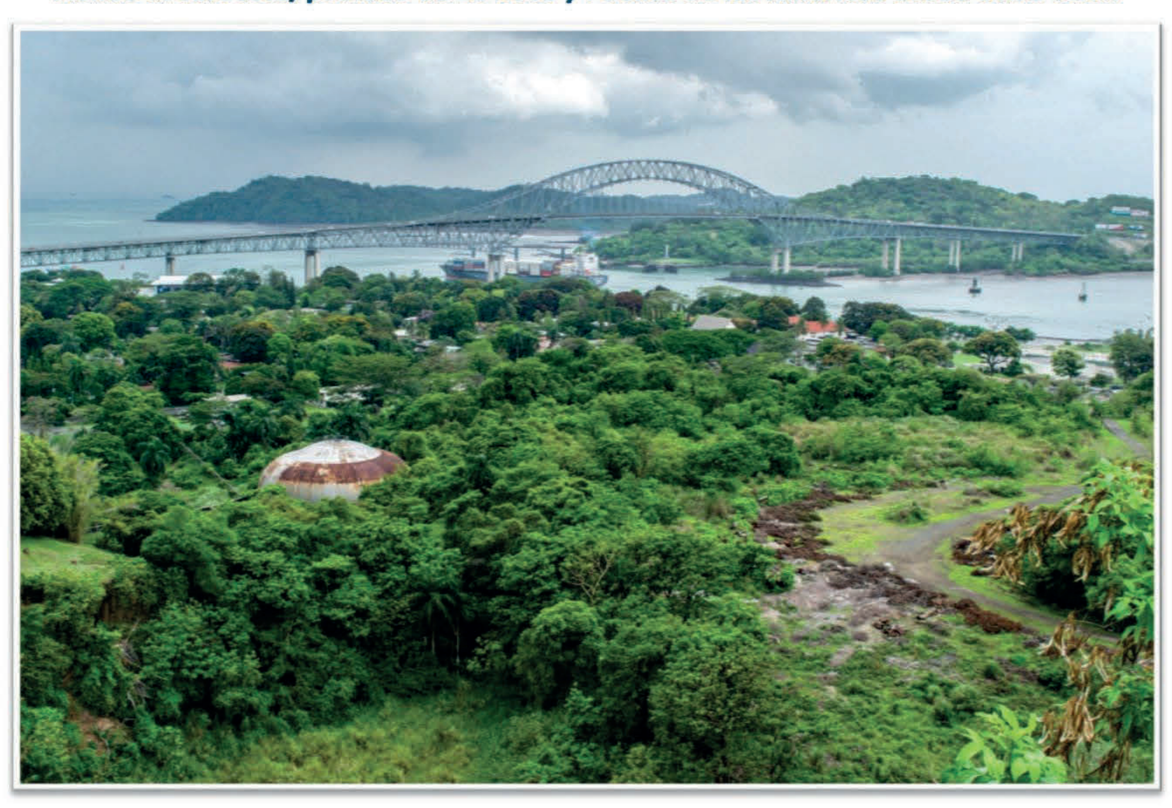
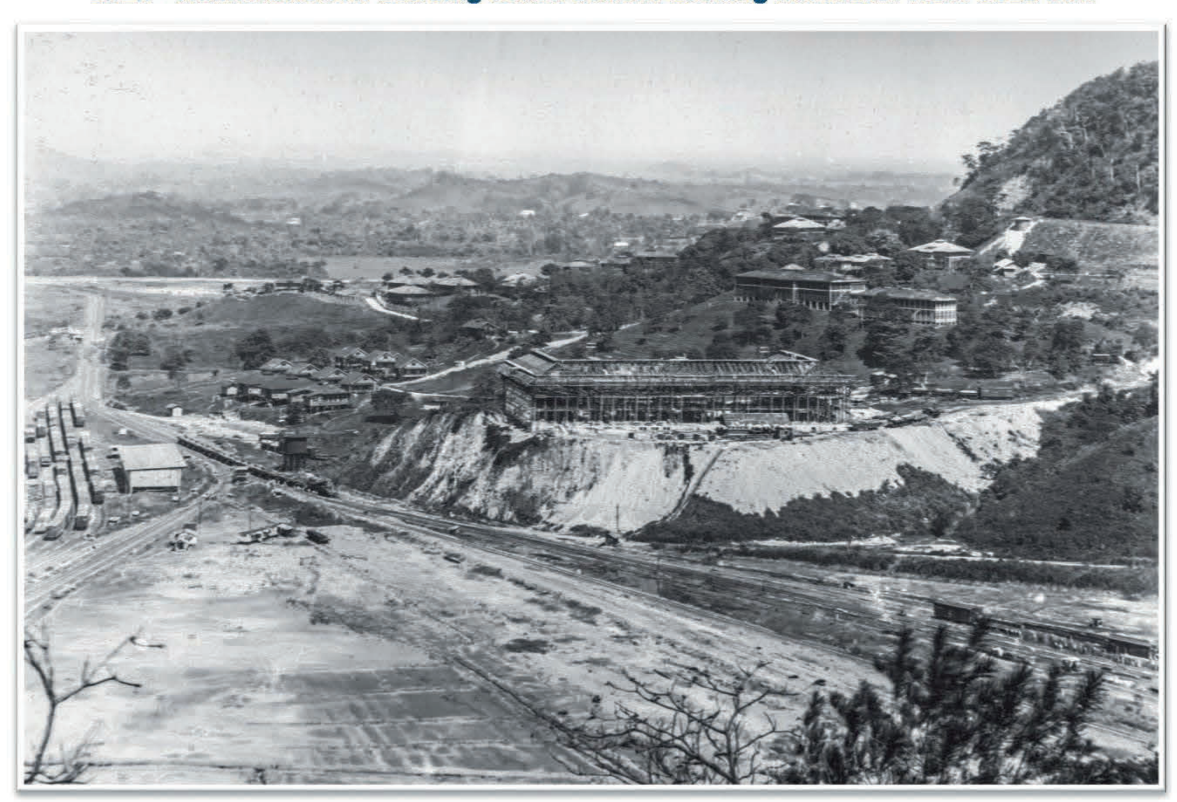


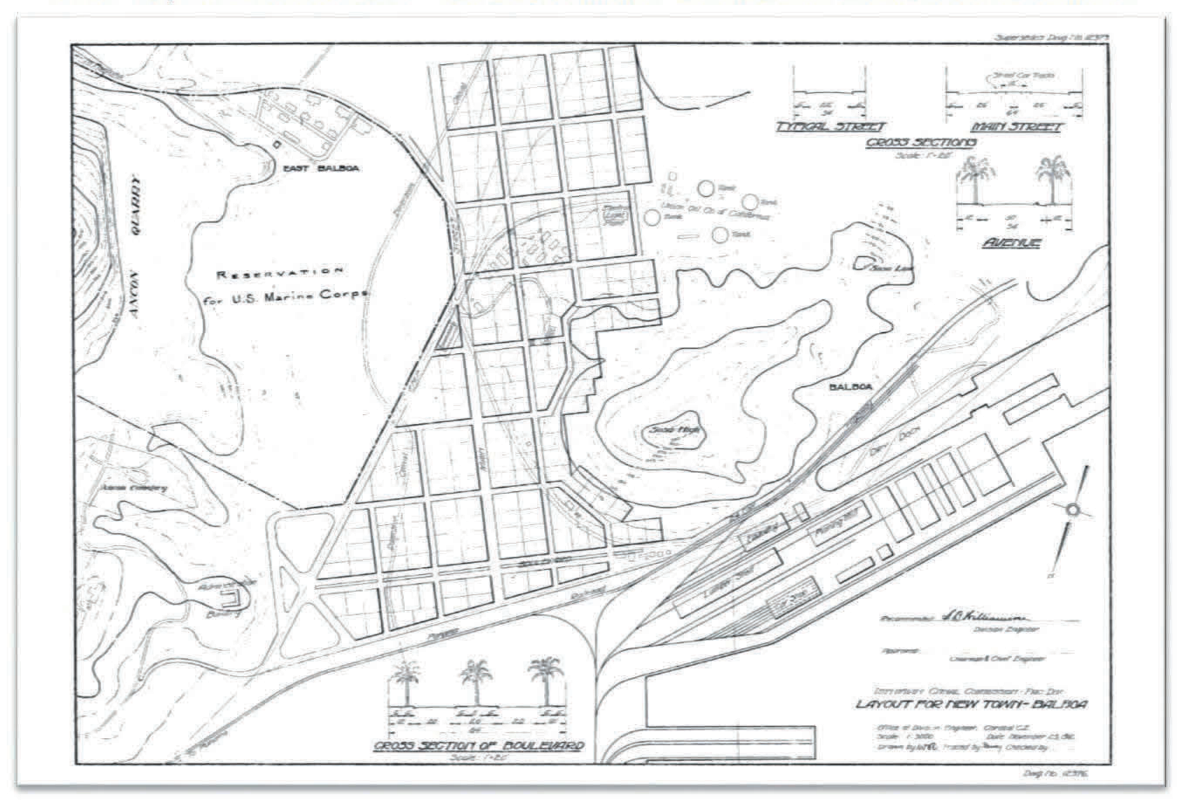
Imagen satelital del mapa histórico y ubicación de la foto superior.



1914 - Administration Building construction. Looking northeast from Sosa Hill.



1912 - Layout for New Town - Balboa / Isthmian Canal Commission / Pacific Division.



Aeropuerto de Albrook, Edificio de Administración y cerro Ancón desde cerro Sosa.

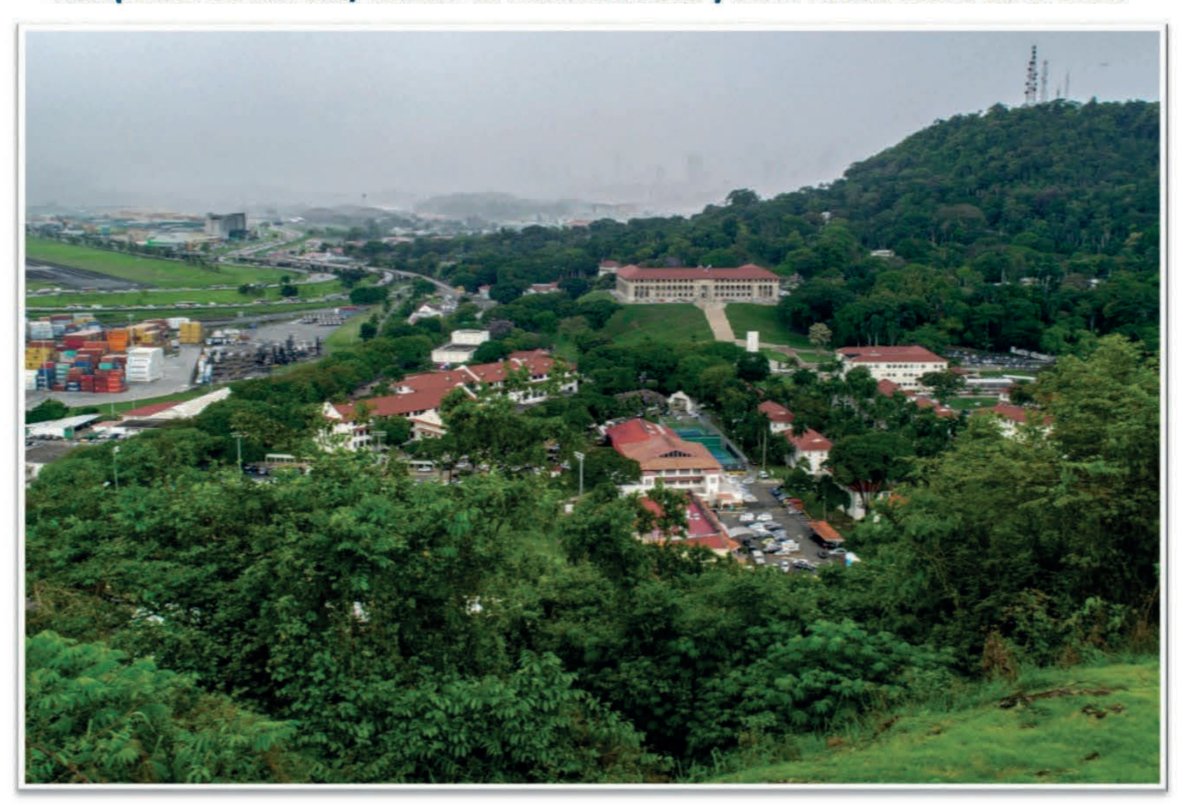
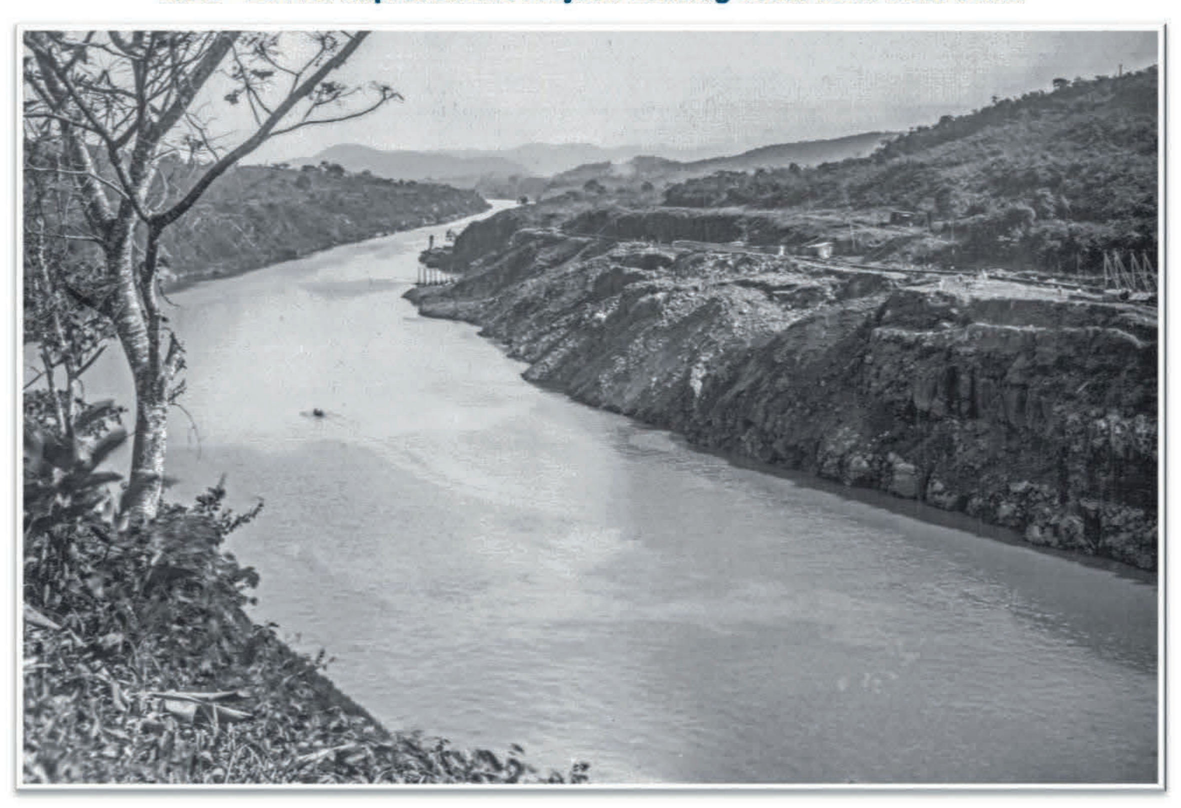


Imagen satelital del mapa histórico y ubicación de la foto superior.



1923 - La Pita Improvement Project. Looking north from west bank.



1857 - Map of the Isthmus of Panama representing the line of the PRR.



Viendo al noroeste; buque Koushun con el remolcador Majagual en el sector de La Pita.

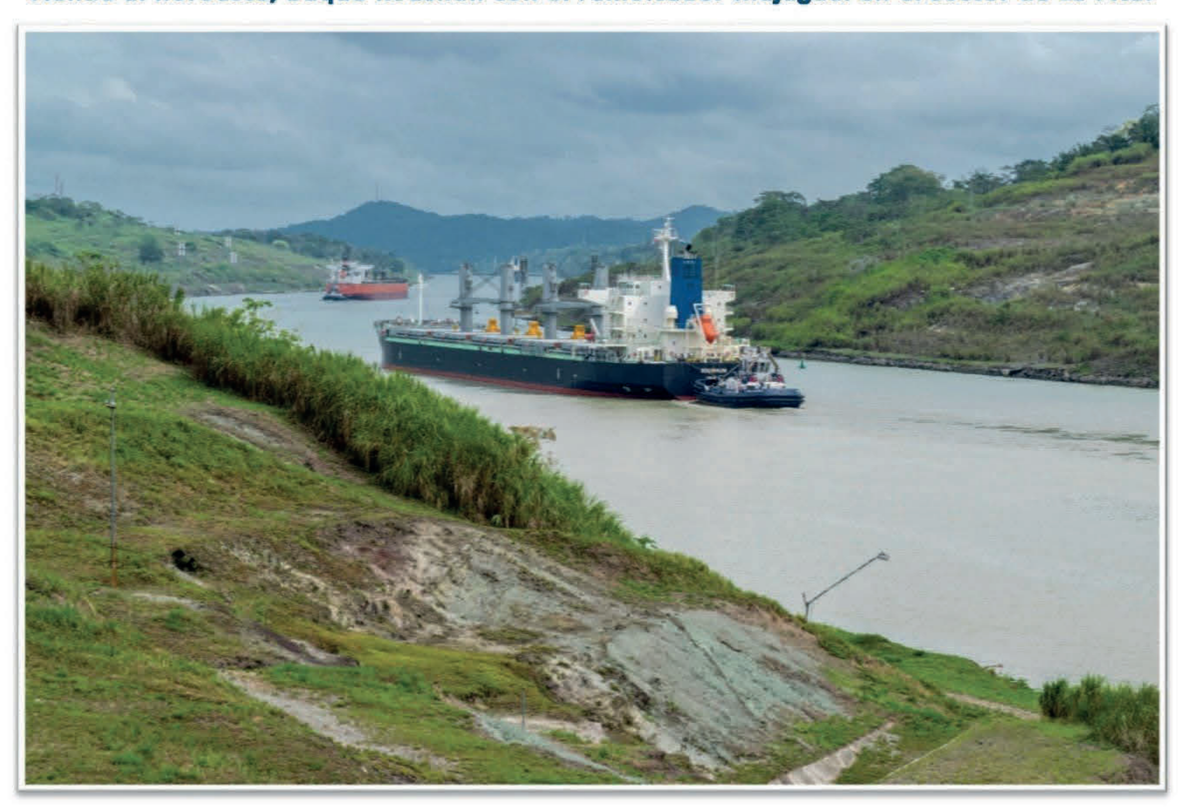
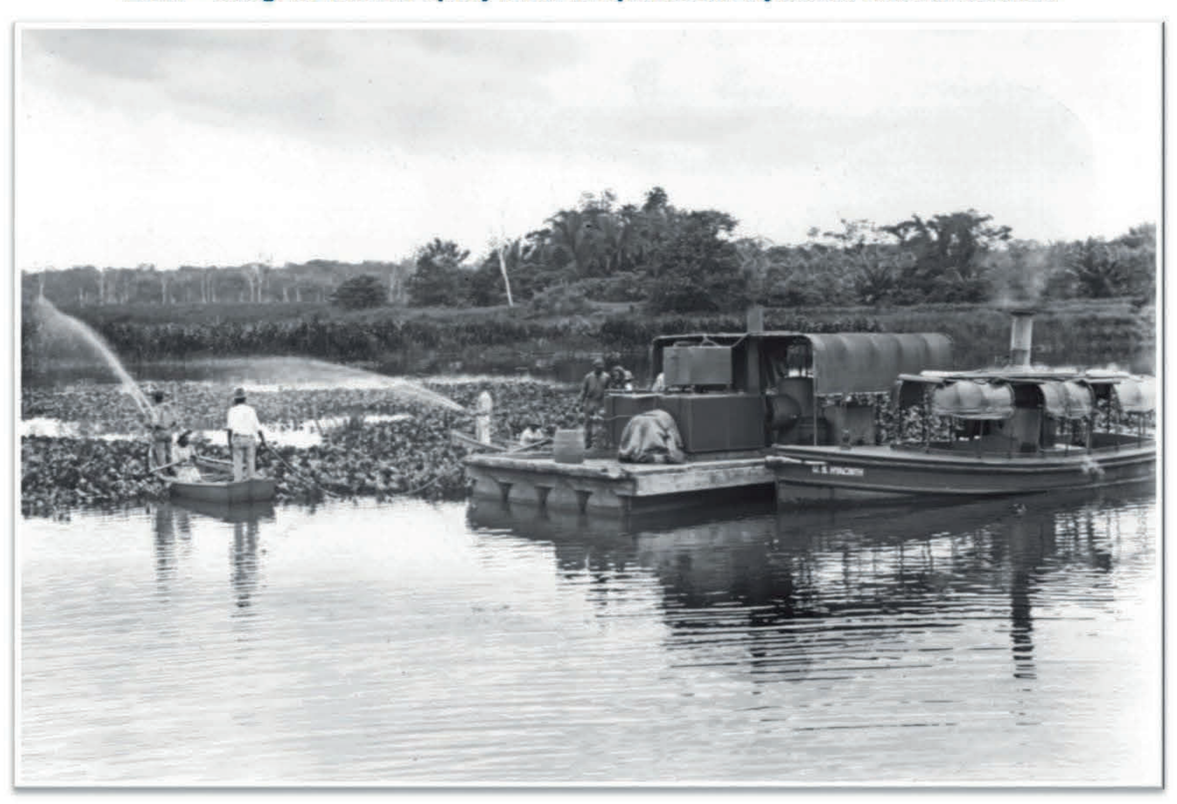


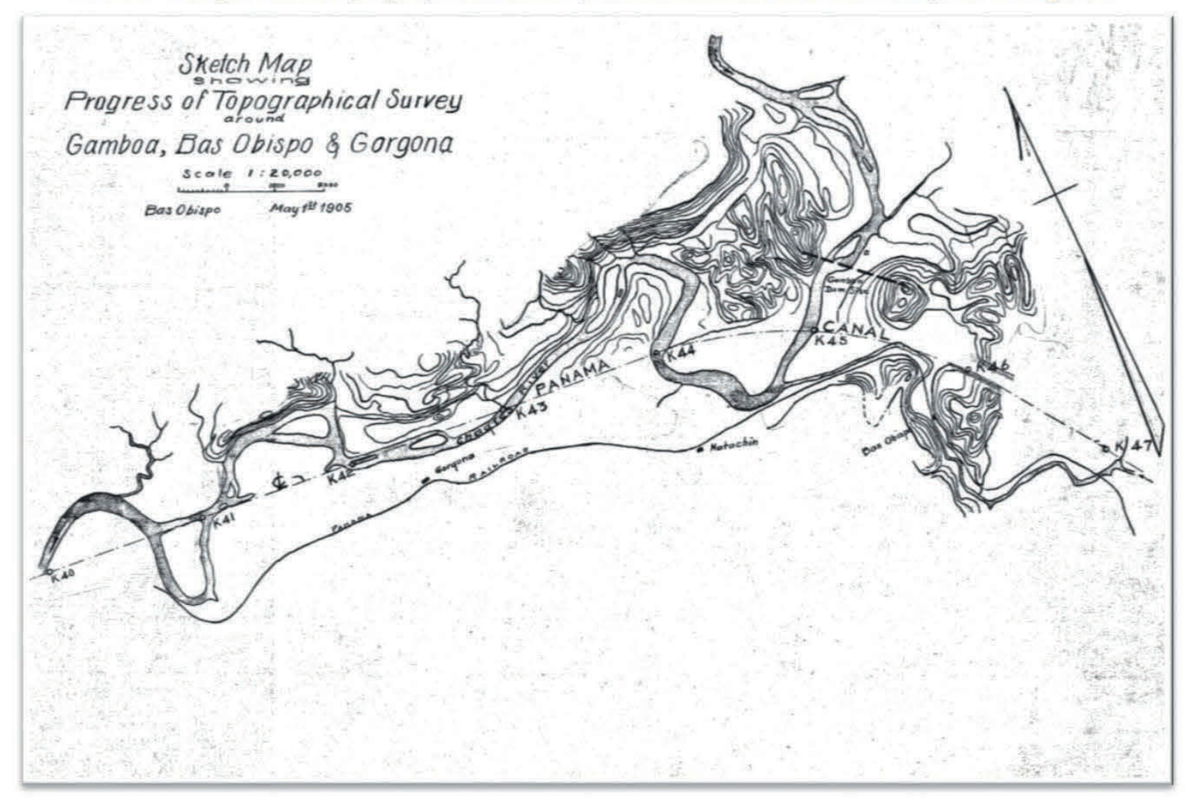
Imagen satelital del mapa histórico y ubicación de la foto superior.



1925 - Chagres arsenic spray boat in operation. Hyacinth extermination.



1905 - Progress of topographical survey around Gamboa, Bas Obispo & Gorgona.



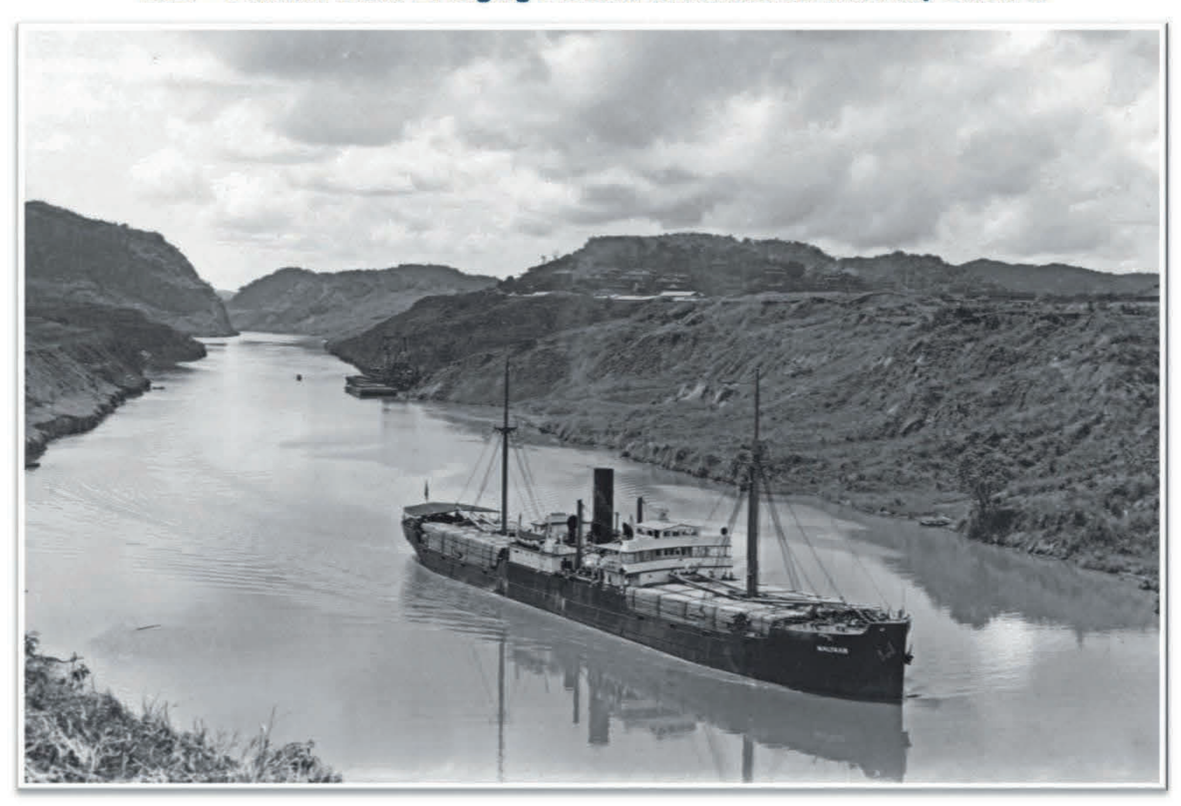
Nuevo puente de Gamboa en la desembocadura del río Chagres en el lago Gatún.



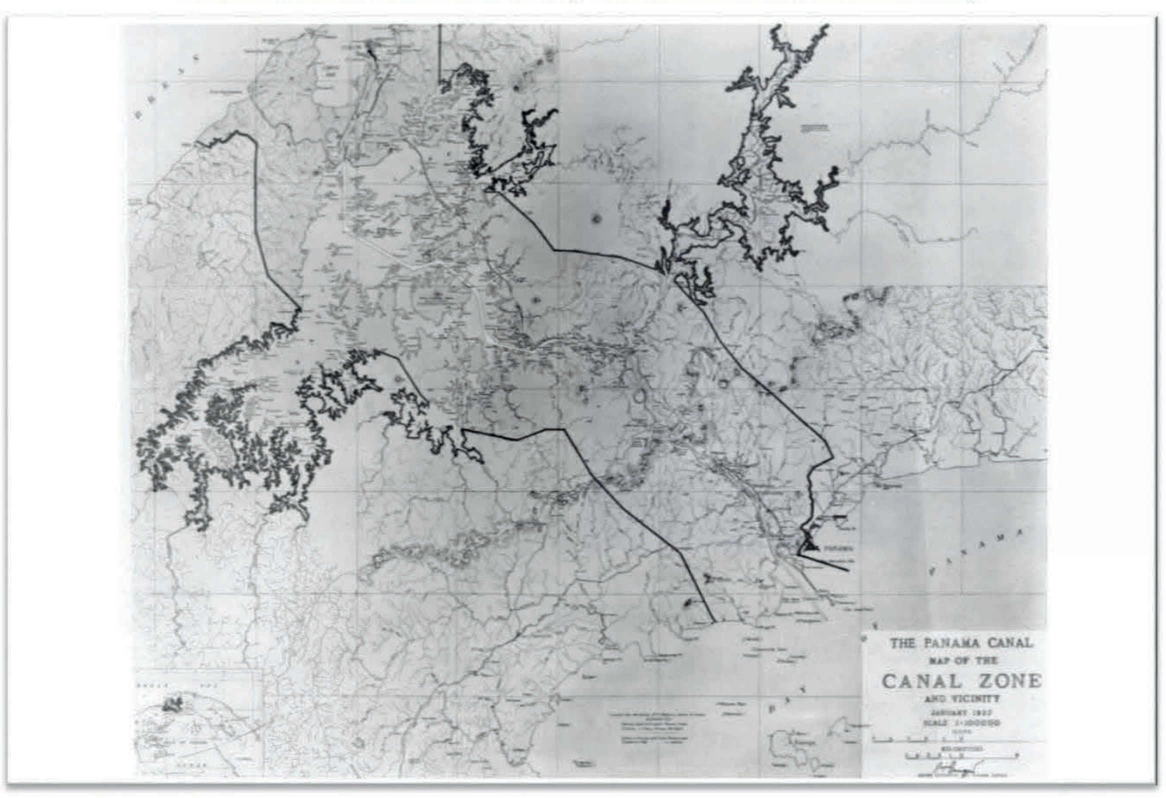
Imagen satelital del mapa histórico y ubicación de la foto superior.



1927 - Panama Canal Dredging Division Activities. SS Maltran, Culebra.



1927 - The Panama Canal / Map of the Canal Zone and vicinity.



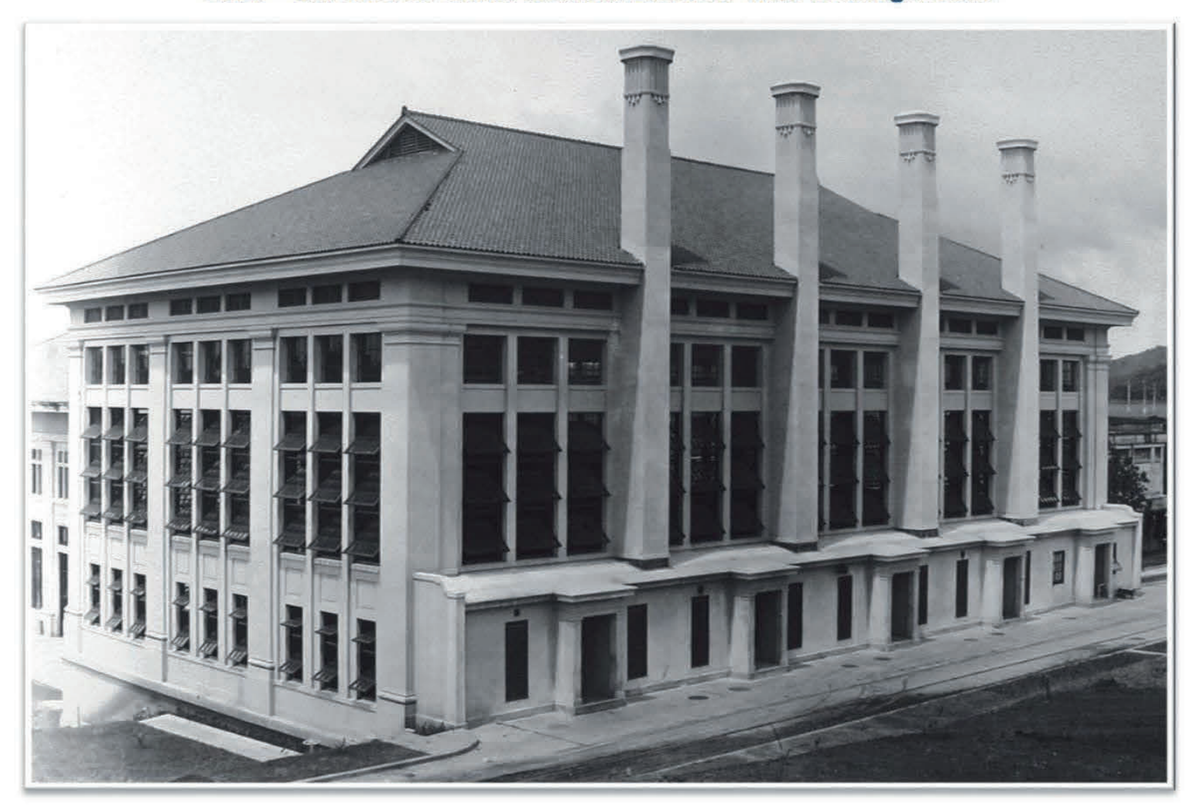
Corte Culebra desde el cauce del Canal de Panamá. Vista en dirección sureste.



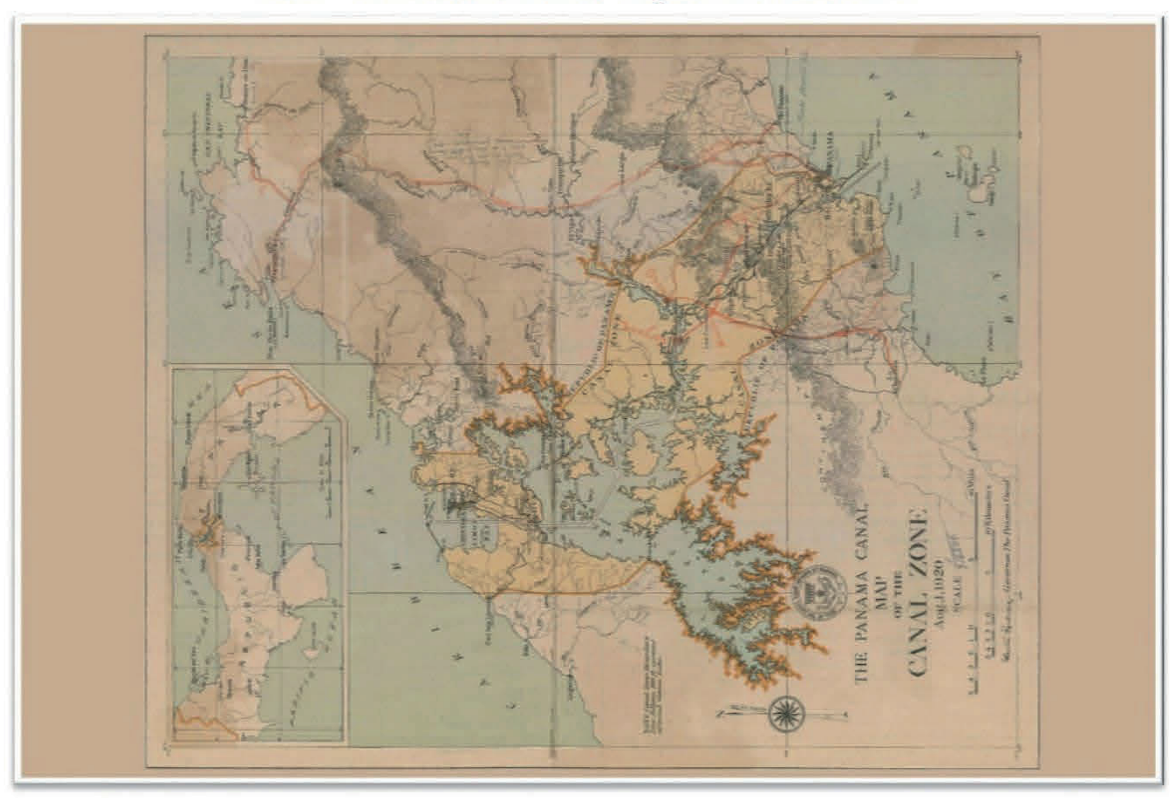
Imagen satelital del mapa histórico y ubicación de la foto superior.



1927 - Miraflores Diesel Station. Exterior view looking south.



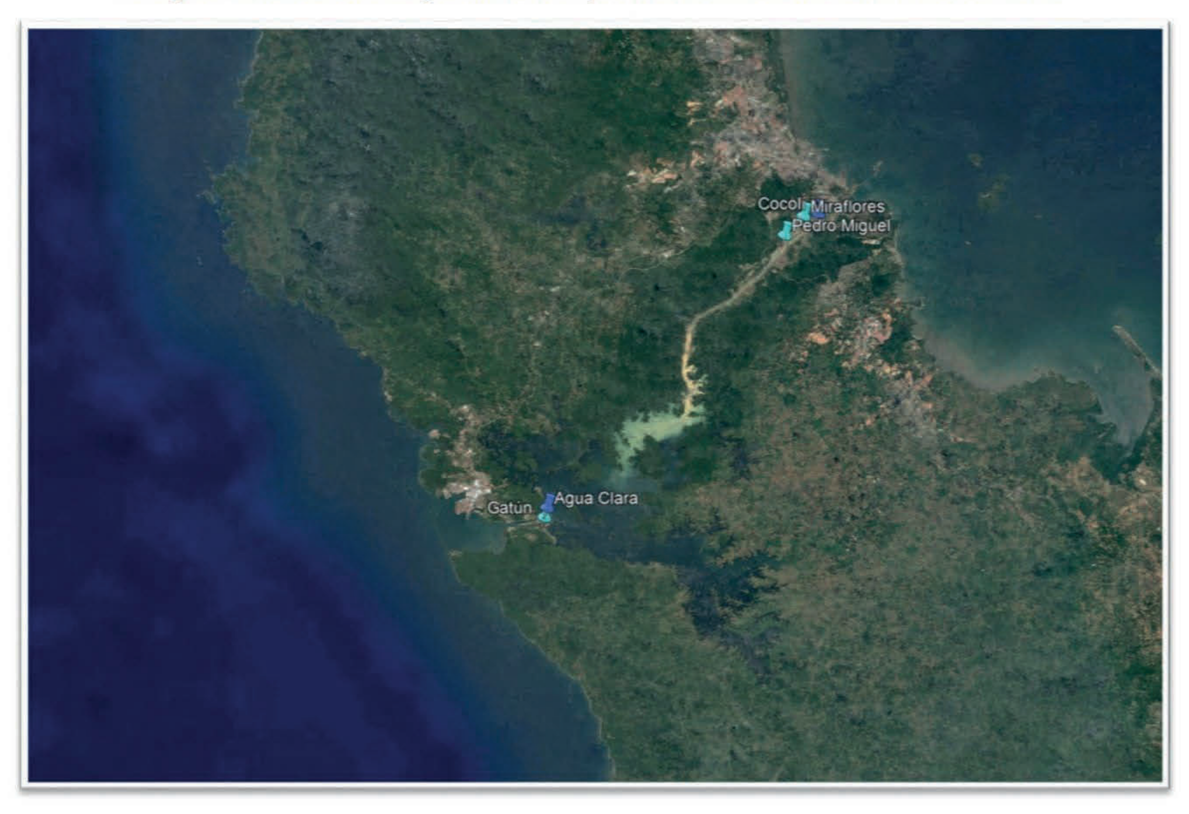
1920 - The Panama Canal / Map of the Canal Zone.



Planta termoeléctrica de la ACP en Miraflores. Vista en dirección suroeste.



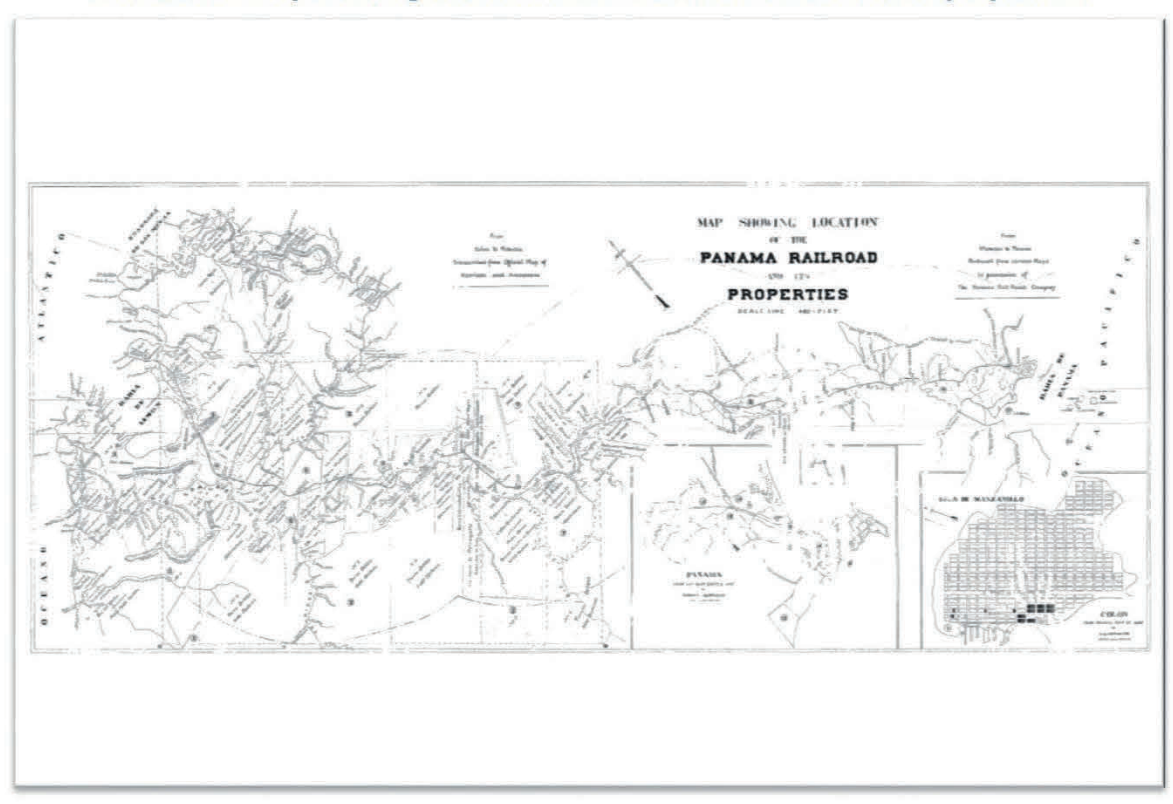
Imagen satelital del mapa histórico y ubicación de las esclusas del Canal.



1928 - USS Saratoga in Gaillard Cut. Southbound at Cucaracha.



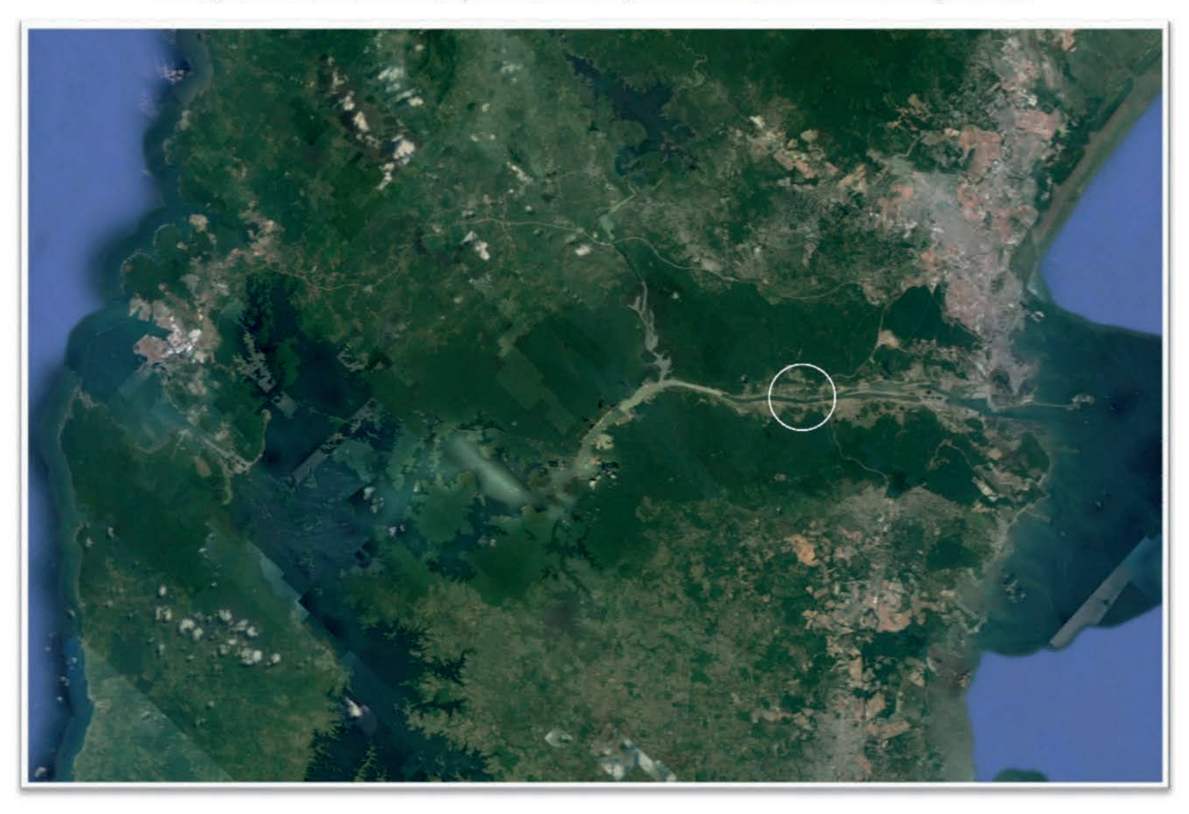
1887 circa - Map showing location of the Panama Railroad and its properties.



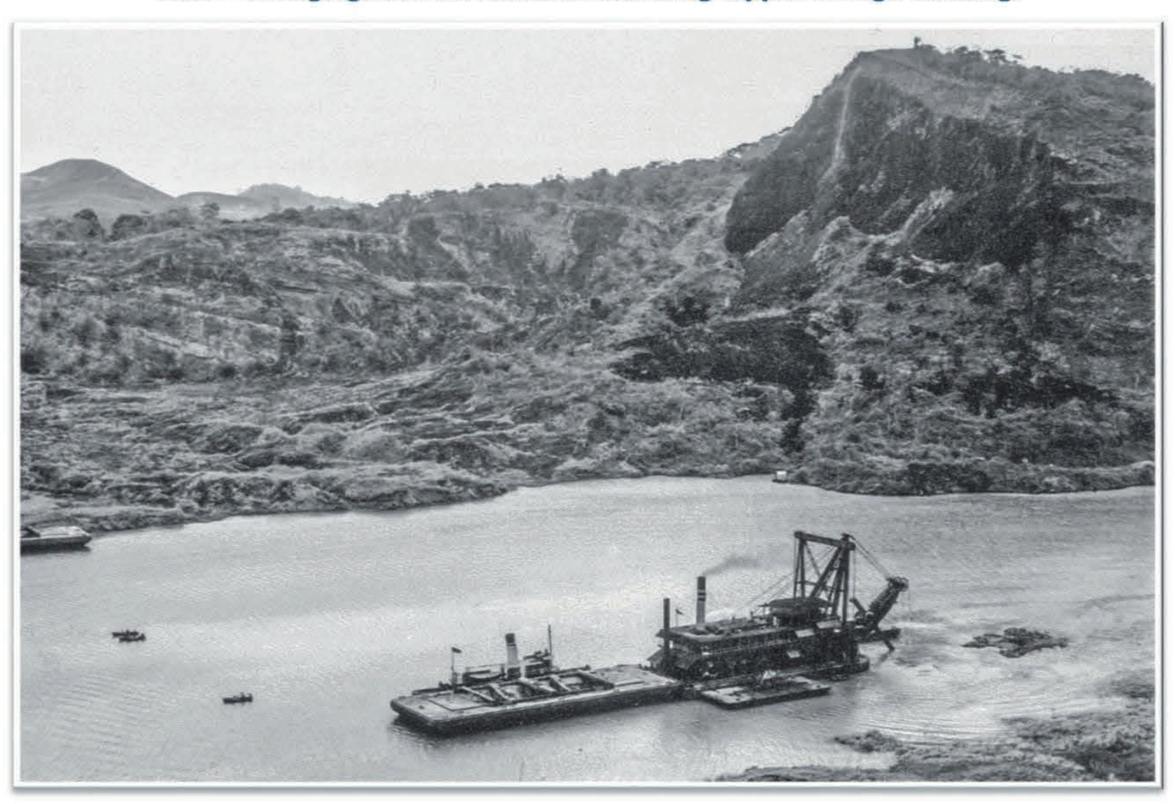
Buque Global Success en el Corte Culebra con el cerro de Oro al fondo.



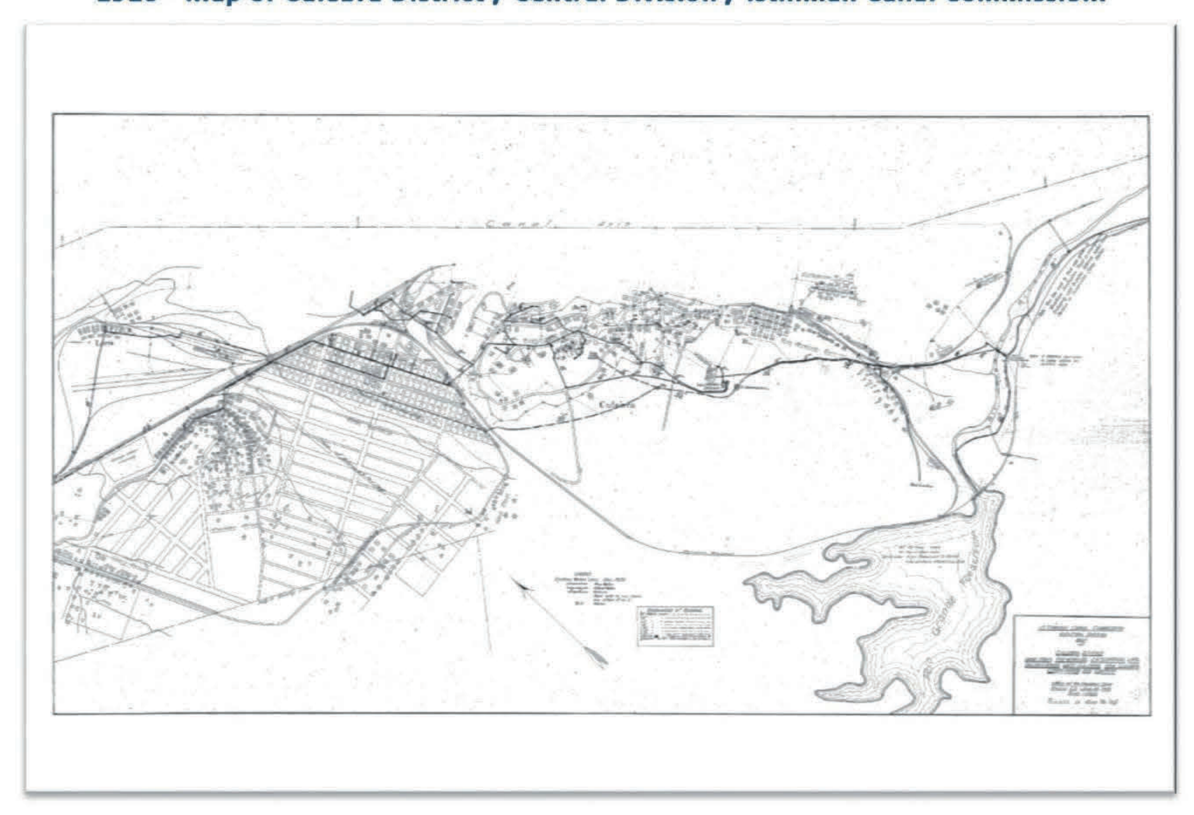
Imagen satelital del mapa histórico y ubicación de la foto superior.



1937 - Dredging Division Activities showing dipper dredge working.



1910 - Map of Culebra District / Central Division / Isthmian Canal Commission.



Corte Culebra y cerro de Oro (al fondo) desde cerro Zion. Vista en dirección este.



Imagen satelital del mapa histórico y ubicación de la foto superior.



IV. Antigua Planta Potabilizadora de Agua Clara

Desde una perspectiva cultural, los vestigios de la planta potabilizadora de Agua Clara permiten vislumbrar la importancia de una edificación que, a principios del siglo XX, garantizó una mejor calidad de vida para los trabajadores canaleros. Esta estructura formó parte de un complejo sistema de abastecimiento de agua esencial para la operación y el desarrollo de las comunidades cercanas al Canal de Panamá. Sin embargo, la mayoría de sus edificaciones fueron demolidas, y las pocas que aún permanecen en abandono están excluidas del registro oficial durante décadas. En otras palabras, esta estructura histórica, construida antes de la inauguración del Canal, no figura en los documentos oficiales actuales del Canal de Panamá.

Construida en febrero de 1910 bajo el nombre de *Gatun Water Works* y puesta en servicio el 29 de diciembre de 1911 como *Agua Clara Filtration Plant*, su función principal era suministrar agua potable al distrito de Gatún, con una capacidad máxima de procesamiento de 9.5 millones de litros diarios. La planta empleaba diques de sedimentación y filtración para purificar el agua antes de su distribución. Inicialmente, carecía de un sistema de aeración, el cual fue incorporado posteriormente para eliminar impurezas como hierro y algas. Su construcción representó una inversión considerable para la época, con un costo original de aproximadamente $250,000, equivalente a más de seis millones de dólares en 2022.

Ubicada estratégicamente cerca del poblado de Gatún, las esclusas y otras infraestructuras clave, la planta representó un hito en la ingeniería sanitaria. Sus instalaciones contaban con avanzados sistemas de purificación, tanques de almacenamiento y filtros de arena que garantizaban un suministro confiable de agua. Además, estaba rodeada de edificios auxiliares que facilitaban su operación y mantenimiento, reflejando el compromiso de la Comisión del Canal Ístmico con el bienestar de los trabajadores de la zona Atlántica.

La planta potabilizadora de Agua Clara simboliza la transformación tecnológica y social que acompañó la construcción del Canal de Panamá entre 1910 y 1911. Fue uno de los primeros sistemas de suministro de agua tratada, un avance crucial para la salud pública de la creciente población de trabajadores y sus familias. Sin embargo, su capacidad pronto resultó insuficiente para la creciente demanda, lo que llevó a la construcción de la planta de Monte Esperanza en 1913. Finalmente, la planta de Agua Clara fue clausurada en 1944. Aunque la mayoría de su infraestructura desapareció con el tiempo, aún permanecen en pie los edificios 297 y 298. En contraste, la represa, el embalse y los sistemas de tratamiento de agua fueron demolidos y enterrados hace décadas, dejando solo vestigios de su relevancia histórica.

Planos y mapas históricos

Ayer:

1911-1912 Represa y Esclusas de Gatún.

1913 De Gatún a Mindi.

1936 Progreso de limpieza del reservorio de Agua Clara.

1937 Eliminación de la Planta de Filtración de Agua Clara.

1940 Planta de Agua Clara.

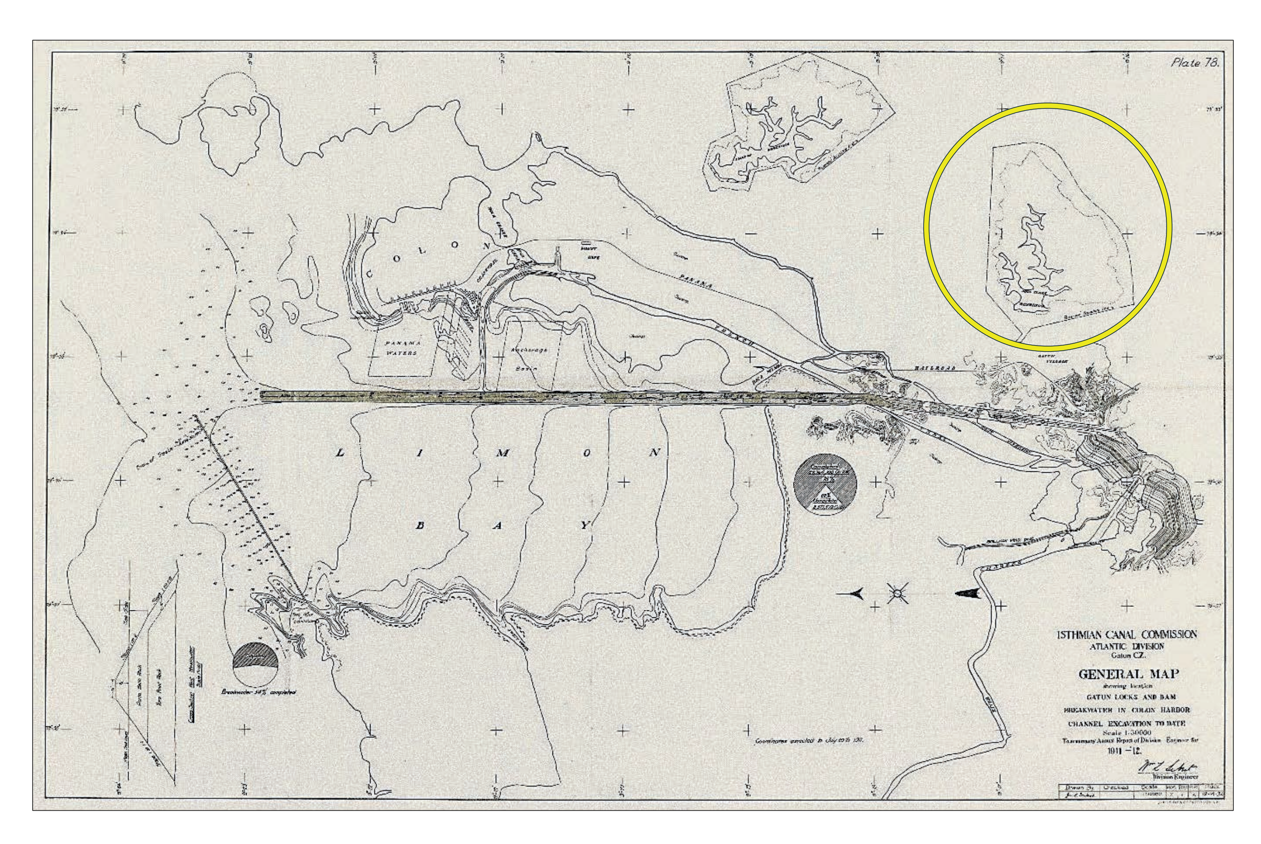
1941 Topografía de Agua Clara y alrededores.

1996 Plan de demolición de la Planta de Filtración de Agua Clara.

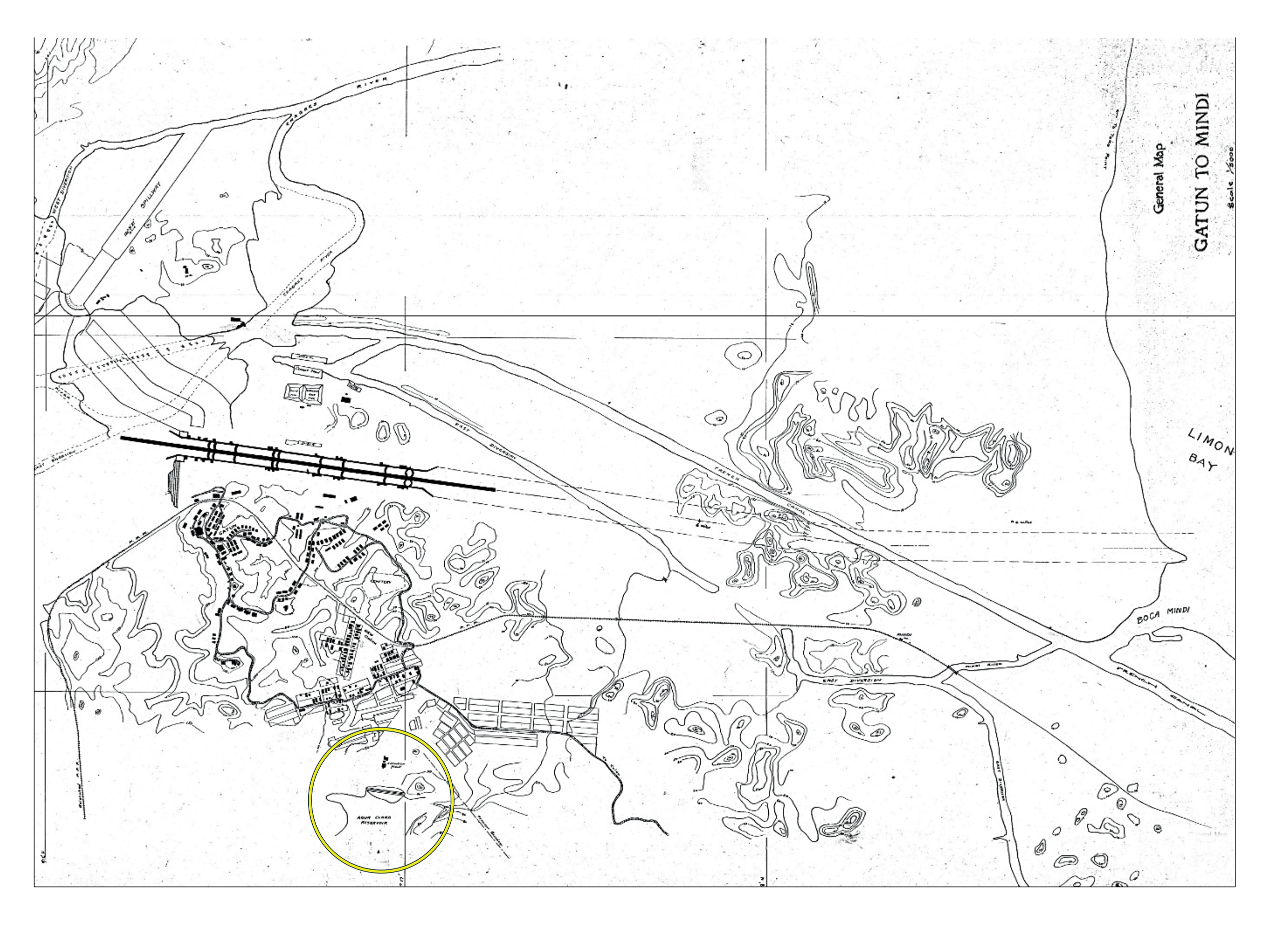
Hoy:

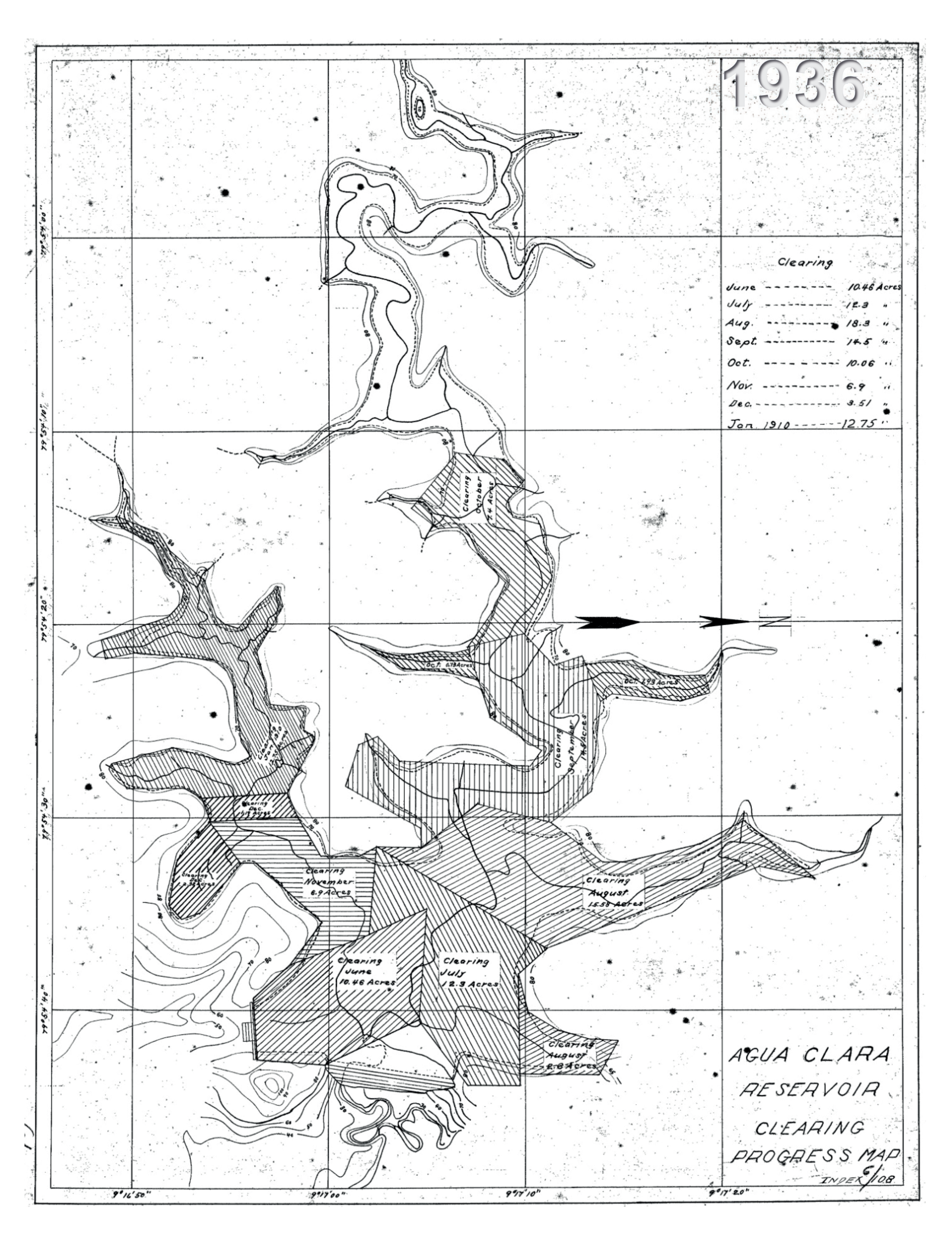
A solo 2.47 kilómetros del actual Centro de Visitantes de Agua Clara. El trayecto, puede realizarse en menos de cinco minutos en automóvil o autobús. Imagen satelital: Google Earth Pro.

A. Ubicación del Ayer y Hoy

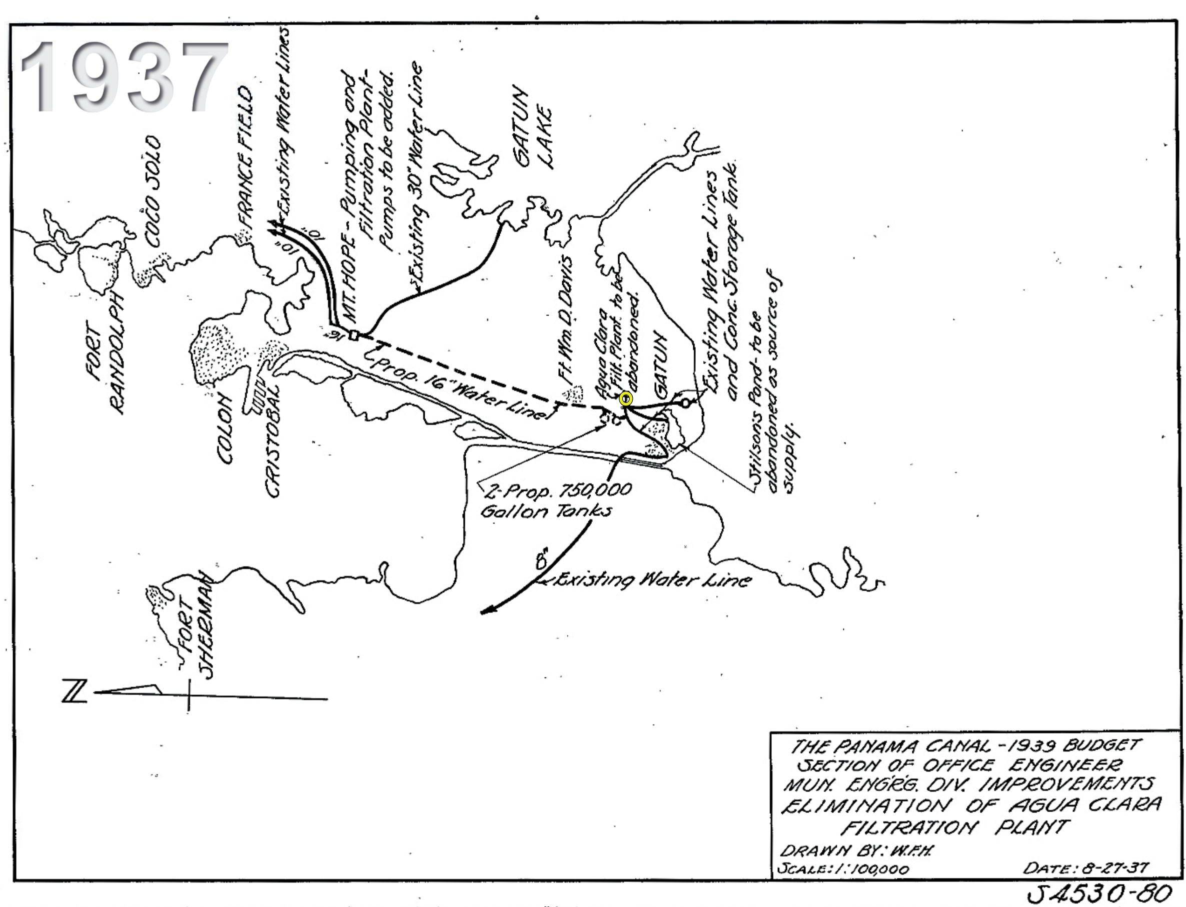


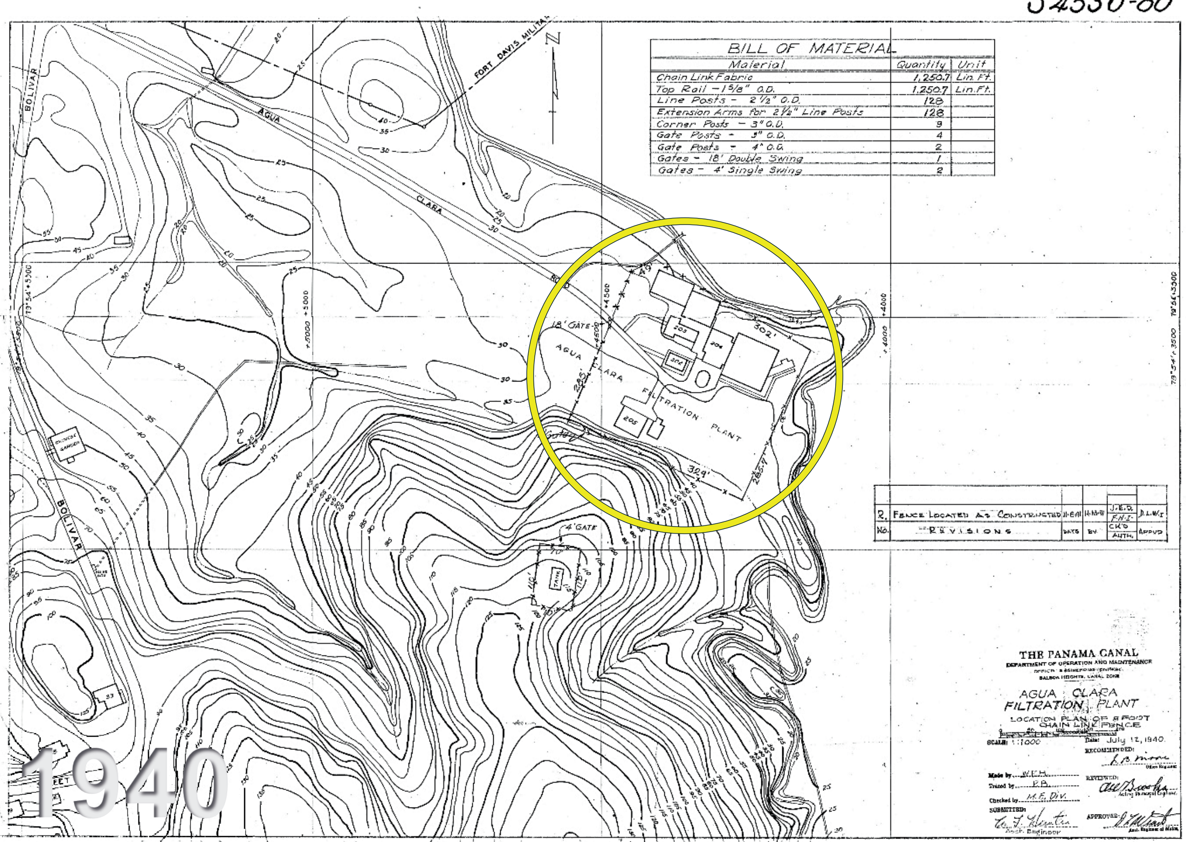
↑ *1911-1912 Agua Clara Reservoir / February 1913 General Map: Gatun to Mindi* ↓

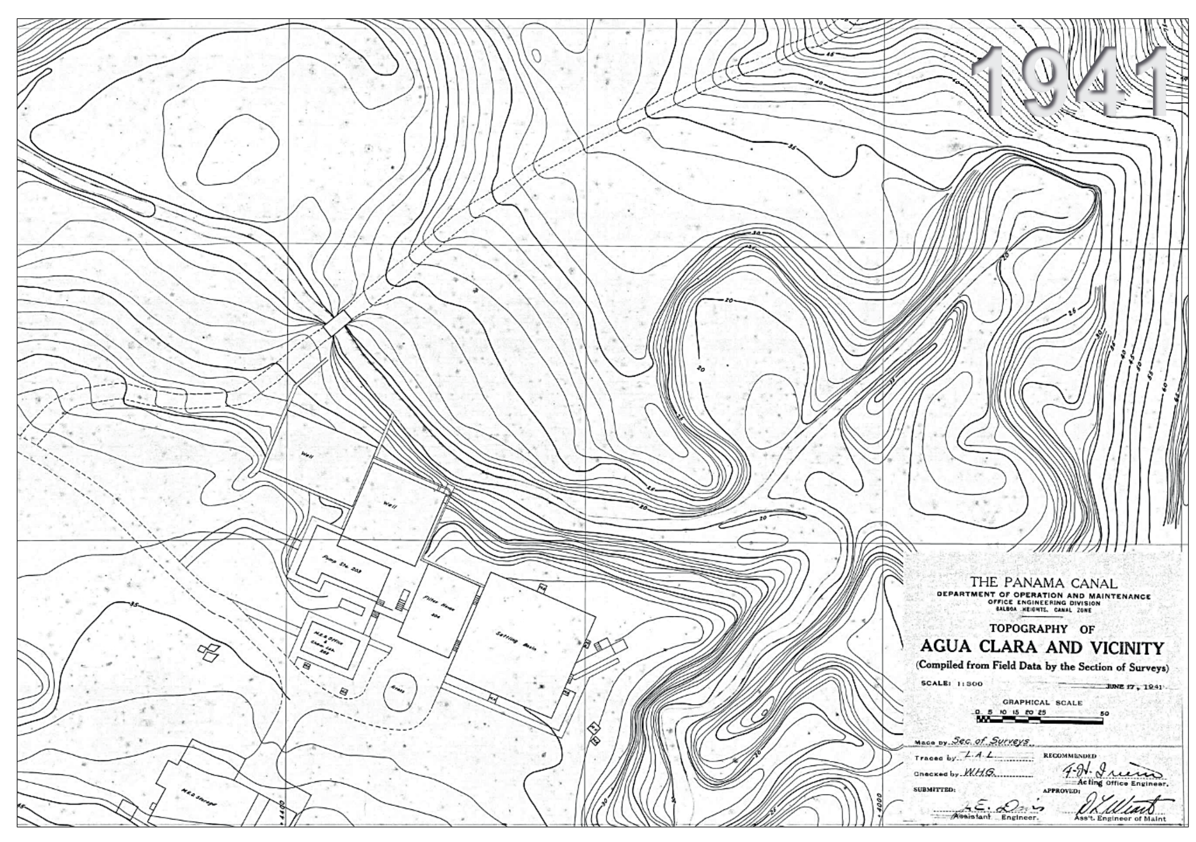


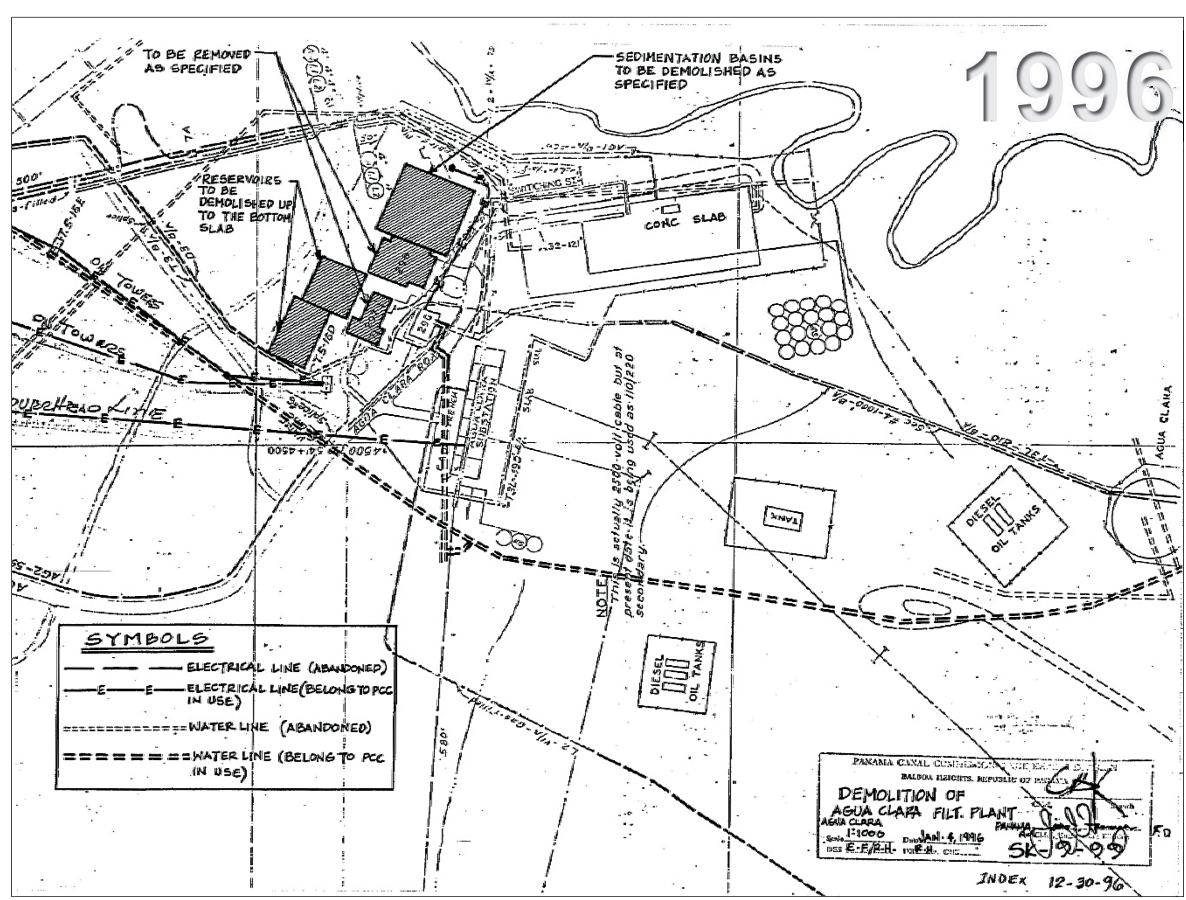


1936
Clearing
June 10.46 Acres
July 12.3 "
Aug. 18.3 "
Sept. 14.5 "
Oct. 10.06 "
Nov. 6.9 "
Dec. 3.51 "
Jan. 1910 12.75 "
Clearing October 7.4 Acres
Clearing September 14.5 Acres
Clearing November 6.9 Acres
Clearing August 15.58 Acres
Clearing June 10.46 Acres
Clearing July 12.3 Acres
AGUA CLARA RESERVOIR CLEARING PROGRESS MAP
INDEX 6/108
9°16'50"
9°17'00"
9°17'10"
9°17'20"


1937
FORT RANDOLPH
COCO SOLO
FRANCE FIELD
Existing Water Lines
MT. HOPE - Pumping and Filtration Plant - Pumps to be added.
Existing 30" Water Line
GATUN LAKE
COLON
CRISTOBAL
Prop. 16" Water Line
Ft. Wm. D. Davis
Agua Clara Filt. Plant to be abandoned.
GATUN
Existing Water Lines and Conc. Storage Tank.
Stilsons Pond - to be abandoned as source of supply.
2-Prop. 750,000 Gallon Tanks
Existing Water Line
FORT SHERMAN
THE PANAMA CANAL - 1939 BUDGET
SECTION OF OFFICE ENGINEER
MUN. ENGRG. DIV. IMPROVEMENTS
ELIMINATION OF AGUA CLARA
FILTRATION PLANT
DRAWN BY: W.F.H.
SCALE: 1:100,000
DATE: 8-27-37
J4530-80


BILL OF MATERIAL
Material | Quantity | Unit
Chain Link Fabric | 1,250.7 | Lin. Ft.
Top Rail - 1 5/8" O.D. | 1,250.7 | Lin. Ft.
Line Posts - 2 1/2" O.D. | 128
Extension Arms for 2 1/2" Line Posts | 128
Corner Posts - 3" O.D. | 9
Gate Posts - 3" O.D. | 4
Gate Posts - 4" O.D. | 2
Gates - 18' Double Swing | 1
Gates - 4' Single Swing | 2
AGUA CLARA
BOLIVAR
18' GATE
AGUA CLARA FILTRATION PLANT
4' GATE
2. FENCE LOCATED AS CONSTRUCTED
REVISIONS
THE PANAMA CANAL
DEPARTMENT OF OPERATION AND MAINTENANCE
BALBOA HEIGHTS, CANAL ZONE
AGUA CLARA
FILTRATION PLANT
LOCATION PLAN OF 8 FOOT CHAIN LINK FENCE
SCALE: 1:1000
Date: July 12, 1940
RECOMMENDED:
Made by W.F.H.
Traced by F.B.
Checked by M.E. DIV.
SUBMITTED:
REVIEWED:
Acting Principal Engineer
APPROVED:
1940


1941
THE PANAMA CANAL
DEPARTMENT OF OPERATION AND MAINTENANCE
OFFICE ENGINEERING DIVISION
BALBOA HEIGHTS, CANAL ZONE
TOPOGRAPHY OF
AGUA CLARA AND VICINITY
(Compiled from Field Data by the Section of Surveys)
SCALE: 1:300
JUNE 17, 1941
GRAPHICAL SCALE
0 5 10 15 20 25 50
Made by Sec. of Surveys
Traced by L.A.L.
Checked by W.H.G.
RECOMMENDED
Acting Office Engineer.
SUBMITTED:
APPROVED:
Assistant Engineer.
Ass't. Engineer of Maint


1996
TO BE REMOVED AS SPECIFIED
SEDIMENTATION BASINS TO BE DEMOLISHED AS SPECIFIED
RESERVOIRS TO BE DEMOLISHED UP TO THE BOTTOM SLAB
CONC SLAB
DIESEL OIL TANKS
AGUA CLARA
NOTE: This is actually 2300-volt cable but at present date it is being used as 110/220 secondary.
SYMBOLS
ELECTRICAL LINE (ABANDONED)
ELECTRICAL LINE (BELONG TO PCC IN USE)
WATER LINE (ABANDONED)
WATER LINE (BELONG TO PCC IN USE)
DEMOLITION OF
AGUA CLARA FILT. PLANT
AGUA CLARA
Scale 1:1000
Date JAN. 4, 1996
SK-92-99
INDEX 12-30-96


Planta Potabilizadora de Agua Clara
Centro de Visitantes de Agua Clara
N
600 m

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Registro del Canal de Panamá de 1909 a 1914.

Informes Anuales al Gobernador del Canal de Panamá para los Años Fiscales finalizados en junio de 1915, 1920 y 1944.

Diario “El Panamá América” (versión en inglés) del 16 de febrero de 1944.

B. Informes y registros históricos

operated twenty-four hours per day, furnishing an average of 1,500 to 1,800 gallons of condensed water. A 1,500-gallon capacity atmospheric condenser was erected at the machine shops and two 1,800-gallon tanks installed, one at the shops and one at the colored mess. An additional tank has since been installed at the European laborers' mess. A daily average of 1,800 gallons of condensed water has been supplied by this plant. A condenser similar to the one at the machine shops was erected in Mindi cut and turned over to the supervisor at that place for operation.

All condensers and tanks have been cleaned out and sterilized once a week.

GENERAL CONSTRUCTION.

In addition to the new 10-inch force main and the pipe line supplying handling plant, the following amounts of pipe were laid during the year for water supply to the spillway, spillway concrete mixer, dam, locks, Mindi cut, etc., and general waterworks construction at Gatun:

	Feet.
2-inch pipe	3,400
3-inch pipe	7,468
4-inch pipe	5,866
4½-inch pipe	450
5-inch pipe	350
6-inch pipe	6,978
8-inch pipe	1,360
Total	25,872

House connections were made to all new dwellings and other new buildings at Gatun.

MAINTENANCE OF WATERWORKS.

The work of repairing leaks and breaks, shifting pipe lines, etc., was continued throughout the year.

NEW WATER SUPPLY FOR GATUN.

The Gatun water supply has up to the present been drawn from the Gatuncillo River. This supply could not have been considered a good drinking water at any time, and owing to the number of laborers encamped and working on the relocation of the Panama Railroad, which lies entirely within the watershed of the Gatuncillo River, the germ content of this water has increased very rapidly. This, in addition to the fact that it will be impracticable to protect the present pumping station from floods when the West Diversion is closed during the next dry season and the Chagres turned through the spillway, has forced prompt action concerning a new water supply for Gatun.

Surveys were undertaken in December for the possible location of a water supply at Mindi. This work was completed in January and estimates submitted. In January surveys of the Agua Clara Creek, east of new Gatun village, were made. Plans and estimates on this work were submitted on February 20, and in May authority for the

1909

construction of a reservoir at this point was given. The area of the watershed of this reservoir is 676 acres; the area of basin, with the water elevation of the reservoir at reference 68, is 95 acres, with crest of dam at elevation 73. The reservoir will have a capacity of 612,000,000 gallons.

It is proposed to construct a rock and earth fill dam, the total contents of which will be 90,000 cubic yards. There will be a concrete cut-off wall crossing the creek bed. This wall will be carried down to impervious material. The gate chamber will be arranged to draw water from the reservoir through 5 sluice valves, spaced approximately 8 feet apart. It is thought that with this arrangement it will be possible at all times to draw water from the reservoir more or less charged with oxygen. The main leading from the dam to the pumping station will be 16-inch; the main from the pumping station to the tank at Gatun, 12-inch.

The pumping station will be equipped with a duplicate set of multistage turbine pumps. The power for this station will be furnished from the main power plant at Gatun. It is estimated that the total consumption at Gatun will be 2,000,000 gallons per day.

A track from the Panama Railroad to the dam site has been laid and trestle over the dam site started. The dam site has been cleared and all top soil removed. The excavation for the pipe lines through the dam is nearly completed, and preparations are being made for laying the pipe. A site for the gate chamber has been selected, and arrangements made to divert the stream and carry off flood water during the construction of the dam. Ten acres were cleared in the reservoir basin.

The total estimated cost of this work is $167,000. The labor cost up to June 30 was $12,600.

GATUN SEWERS.

A new trunk line sewer from Gatun north to a creek near Mindi was authorized and has been constructed, 4,100 feet of 10-inch and 3,740 feet of 12-inch vitrified pipe being laid and 26 concrete manholes constructed. Before this was done it was necessary to lay about 3,000 feet of 8-inch pipe, due to obstruction of sewer outlets by the rebuilding of the Panama Railroad.

In addition to the above, 1,275 feet of 8-inch and 4,440 feet of 6-inch vitrified pipe were laid in connection with general work.

GATUN STREETS.

One thousand two hundred linear feet of macadam streets were built during the year. Eight thousand linear feet of streets were widened from 14 to 16 feet and remacadamized. One thousand eight hundred linear feet of macadam road were built, and the road to the crematory resurfaced and placed in good condition.

The usual maintenance work was carried on.

About 500 linear feet of new cinder sidewalk were laid during the year, and about 2,000 feet resurfaced and rolled.

About 500 feet of concrete retaining wall and gutter were built.

1909

Preliminary work looking toward the laying of tracks, clearing land, construction of quarters, and the establishment of a permanent water supply were undertaken preparatory to the construction of a trestle for the actual work of building the breakwater.

Municipal improvements.—The construction of the Agua Clara reservoir, with the exception of a filter plant, was continued along the general lines noted in the last annual report, and was completed during the year at a total cost of $202,147.05, exclusive of the filters. The pumping station on the Gatun River was in operation until May 28, 1910, when the supply was furnished from the new system. The new village of Gatun has been supplied with water from the new system, and about two-thirds of the water service required is completed.

The sewer system for New Gatun was also completed during the year, and considerable progress made toward the installation of plumbing in the buildings.

The Mount Hope-Gatun road was completed early in the year. The road was fenced on both sides from Mount Hope to Mindi, a total length of 5½ miles. Additional roads were constructed about Gatun to facilitate access to the commissary and corral.

The condition of the water in the reservoir at Brazos Brook was excellent throughout the year. Owing to a slight settlement of the dam and dikes, they were raised to elevation 55, a total of 1,715 cubic yards of earth being required for this work. Repairs were also made to the concrete apron under the 48-inch waste pipe.

To prevent erosion of the beach at Cristobal by wave action from Limon Bay, 173 concrete blocks were made and placed in line along the beach.

In addition, municipal improvements were undertaken in Colon, under an appropriation by Congress for the purpose.

Sanitary work consisted of constructing a new drainage ditch 500 feet long, and on an average 8,200 feet of ditch were regraded, cleaned, and widened each month.

For further details, attention is invited to Appendix C.

CENTRAL DIVISION.

The work of this division embraces all the excavation between the Gatun dam and Pedro Miguel locks, including diversion channels; construction of the Naos Island breakwater; clearing of timber from the channel and anchorage basin; municipal improvements in the various settlements included within the division limits, and such sanitary engineering work in the same area as is prescribed by the sanitary department. The work is in charge of Lieut. Col. D. D. Gaillard, Corps of Engineers, U. S. Army, as division engineer.

Due to the resignation of Mr. L. K. Rourke, assistant division engineer, a reorganization of the division was made, effective May 1,

1910

vation 26. The well was then kept dry by hand pumping and the electrical pump kept in operation throughout several periods of very high water. At one time the river stood at elevation 24 at the pump station for a period of about twenty-four hours.

This station furnished during the year a total of 680,000,000 gallons of water.

The station was closed down on May 28, 1910, on which date the new pumping station at the Agua Clara reservoir was put into service. The dismantling of the station is now in progress, and portions of the steam plant and all quarters in connection with the station have been removed.

CONDENSER PLANT.

Effort has been made to furnish all employees with condensed water for drinking and cooking purposes; a total of 4,200,000 gallons of this water was supplied.

NEW WATER SUPPLY, GATUN.

The construction of the Agua Clara reservoir (see Pl. 101), with the exception of the filter plant, was completed along the general lines noted in the annual report for 1909. The cost of this work was increased and the progress retarded very much by the unusually heavy rainfall during the latter part of 1909 and January of this year.

Working conditions were very unfavorable for a period of more than six months for this class of work, but the necessity for the early completion of the water supply demanded that every effort be made to finish it.

The concrete cut-off wall was carried across the old creek bed and into good solid clay. The total length of this wall is about 100 feet. The elevation at the bottom of the wall near the center of the creek is −5.

The gate chamber was founded on piles driven to solid rock. After the lower valves and fittings had been set, and the concrete finished to a point about 15 feet above the stream, the valves in the waste pipe were closed. By this time the fill had been built up to a point sufficiently high to permit the water to rise in the basin. The earth fill was then carried up in layers a foot thick.

A concrete footbridge was constructed to the gate chamber.

Two 3-stage turbine pumps, switchboard, and transformers were received and installed in the pump station.

The pump station was constructed throughout of reinforced concrete.

The spillway has a clear waterway of 80 feet, and is built of concrete with an earth dyke at each end.

The following table shows the amount of work done on the various items:

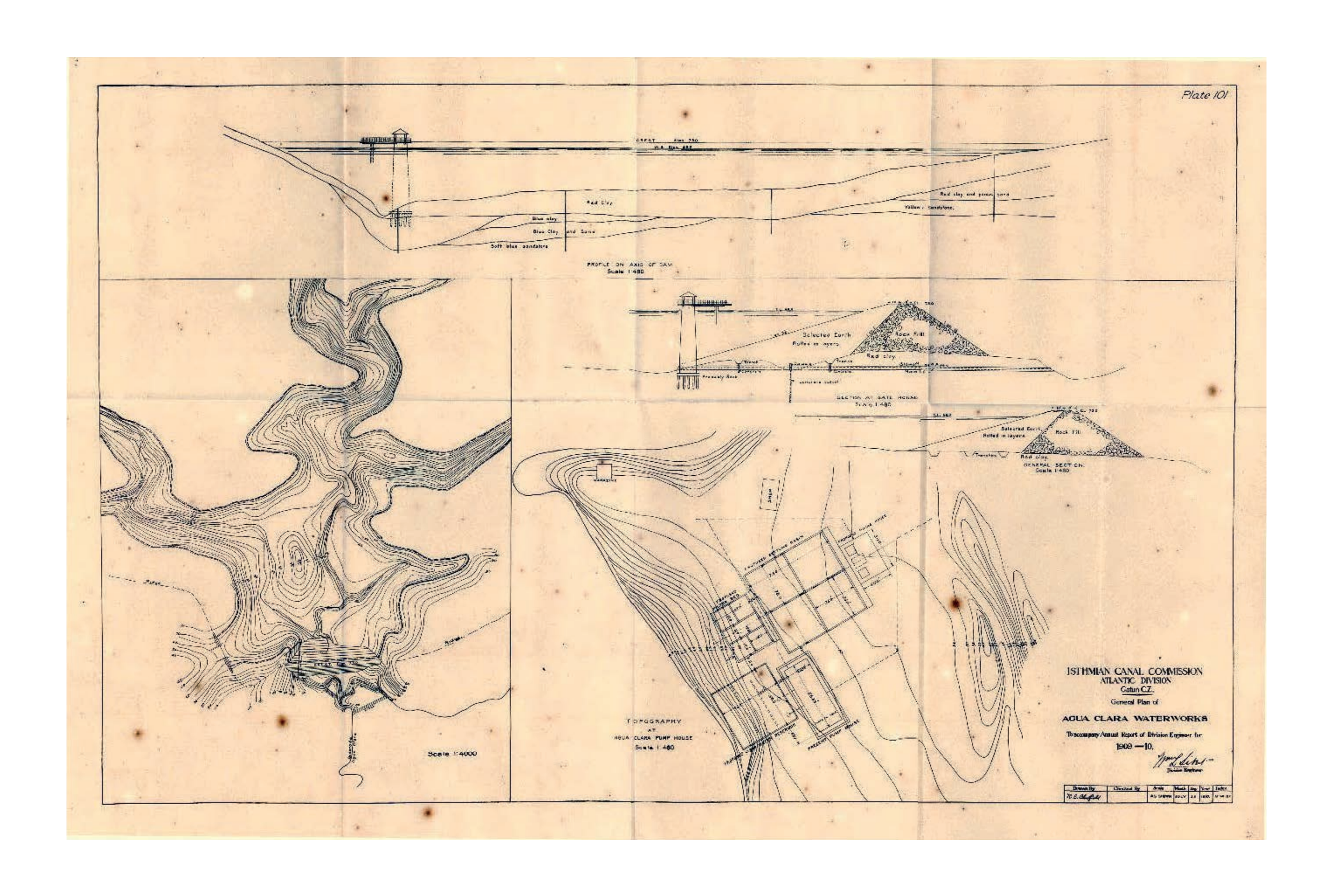
Total fill in dam, earth and rock	cubic yards	105,000
Top soil from dam site	do	1,200
Excavation in cut-off wall	do	315
Concrete in cut-off wall	do	370
Concrete in waste pipe, etc	do	230
Piles in foundation of gate chamber	do	36

1910

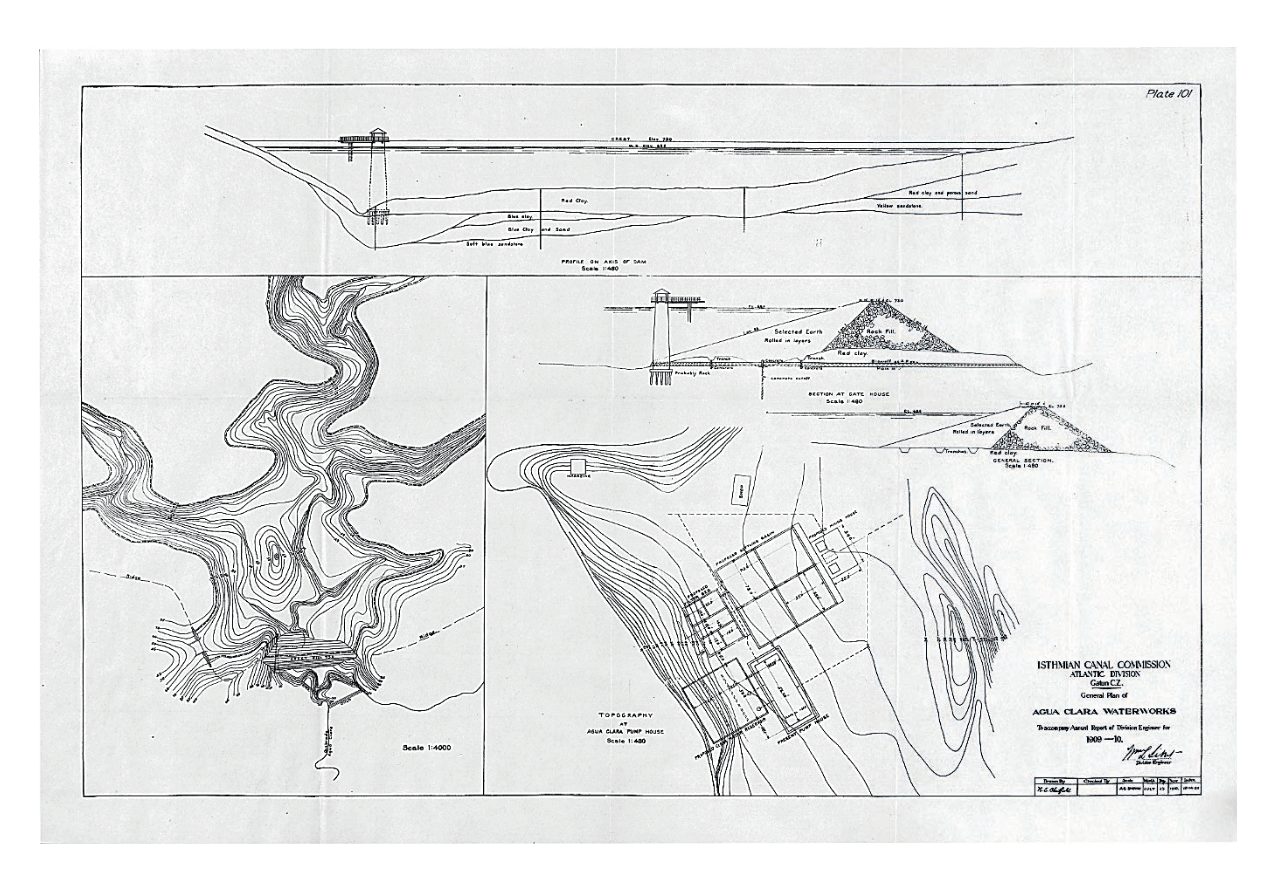
MAPS AND DIAGRAMS.

[Frontispiece and half-tones, Plates 1 to 74, accompany the text.]

1910


Plate 101
Red clay
Blue clay
Blue Clay and Sand
Soft blue sandstone
Red clay and porous sand
Yellow sandstone
PROFILE ON AXIS OF DAM
Scale 1:480
Selected Earth
Rolled in layers
Rock Fill
Red clay
SECTION AT GATE HOUSE
Scale 1:480
Selected Earth
Rolled in layers
Rock Fill
Red clay
GENERAL SECTION
Scale 1:480
Scale 1:4000
TOPOGRAPHY
AT
AGUA CLARA PUMP HOUSE
Scale 1:480
ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun C.Z.
General Plan of
AGUA CLARA WATERWORKS
To accompany Annual Report of Division Engineer for
1909 —10.
Division Engineer

1910


Plate 101
Red Clay
Blue clay
Blue Clay and Sand
Soft blue sandstone
Red clay and porous sand
Yellow sandstone
PROFILE ON AXIS OF DAM
Scale 1:480
Selected Earth
Rolled in layers
Rock Fill
Red clay
Probably Rock
SECTION AT GATE HOUSE
Scale 1:480
Selected Earth
Rolled in layers
Rock Fill
Red clay
GENERAL SECTION
Scale 1:480
Scale 1:4000
TOPOGRAPHY
AT
AGUA CLARA PUMP HOUSE
Scale 1:480
ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun C.Z.
General Plan of
AGUA CLARA WATERWORKS
To accompany Annual Report of Division Engineer for
1909 —10.
Division Engineer
Drawn By
Checked By

stored. A reservoir was constructed for the water supply, necessitating the building of dams which contain 54,390 cubic yards of material, and the necessary pipe lines were laid. A trestle for the breakwater was started on August 9, 1910. A steam shovel began work early in September, and a second one in October. At the end of the year 5,365 lineal feet of double-track trestle had been completed, and 359,890 cubic yards of fill dumped from the trestle. In addition, 619,152 cubic yards of rock dredged from the prism were dumped in the vicinity of the breakwater. The average cost of the fill was $1.4506 per cubic yard.

Municipal improvements.—A rapid gravity mechanical filter plant was authorized for the Agua Clara Reservoir in January at an estimated cost of $37,447. At the close of the year 94 per cent of the concrete work was completed, and the filter plant as a whole, including the installation of piping and filter apparatus, was 80 per cent completed.

Sewers were extended a total of 4,425 feet, and the usual maintenance work in connection with the sewage system was carried on throughout the year.

A 16-foot macadam road was built from the incinerator to New Gatun, a distance of 1,400 feet; a 12-foot road, 650 feet long, was constructed from the corral to the lumber yard for fire protection, and 101 feet of the road entering the corral were rebuilt. About 3,100 feet of curb and gutter were constructed along the streets in Gatun. In addition municipal improvements were carried on in Colon under an appropriation by Congress for the purpose.

Sanitary work consisted of cleaning and grading 197,834 feet of ditches and cleaning 29,160 feet of road ditches.

For further details attention is invited to Appendix B.

CENTRAL DIVISION.

The work of this division embraces all the excavation between the Gatun Dam and Pedro Miguel Locks, including diversion channels; the construction of the Naos Island breakwater, clearing of timber from the channel and anchorage basin, municipal improvements in the various settlements included within the division limits, and such sanitary engineering work in the same area as is prescribed by the sanitary department. The work is in charge of Lieut. Col. D. D. Gaillard, United States Army, as division engineer.

The division is divided into four construction districts—the Chagres district, extending from the Gatun Dam to the Chagres River at Gamboa; the Empire district, extending from the Chagres River to the Empire Suspension Bridge; the Culebra district, from the Empire Suspenion Bridge to the railroad crossing north of Pedro

1911

MUNICIPAL ENGINEERING.

[Mr. L. G. Thom, superintendent, in local charge.

GATUN WATERWORKS.

The only change or alteration to the system was the erection of a small pumping station on Gatun Lake, to be used in case of interruption to the regular service. This plant was installed on a small concrete platform built above high-water level of the lake. The machinery consists of three steam pumps and one motor-driven centrifugal pump taken from the old pumping station. This station was operated about two months to furnish water, under 140 pounds pressure, for sluicing at Mindi and in the lower lock.

During the dry season, the consumption of water increased to such an extent that the pressure at points distant from the water tank was not sufficient for ordinary purposes. The 10-inch pipe taken from the old pump station was laid from the Agua Clara station to the north end of the locks, furnishing water direct to the machine shop, power plant, and Mindi. Since the installation of this line, no trouble whatever has been experienced through the lack of pressure.

The usual work of shifting, relaying, and maintenance of the pipe lines was carried on. The following table gives the amount of pipe handled during the year:

Pipe handled.

	Feet.		Feet.
¾-inch	980	4½-inch	980
1-inch	1,972	5-inch	9,715
1¼-inch	612	6-inch	3,219
1½-inch	2,968	7-inch	3,447
2-inch	582	8-inch	4,873
2½-inch	2,082	10-inch	8,900
3-inch	3,612		
4-inch	4,784	Total	48,760

AGUA CLARA RESERVOIR.

This reservoir was described in the annual report for 1909. The banks of the reservoir have been cleared of all brush and rubbish, and everything is now in first-class condition. The following table shows the consumption of water from this reservoir for the year:

Water from Agua Clara Reservoir.

	Gallons.		Gallons.
July	56,989,000	March	92,656,000
August	67,452,000	April	85,644,000
September	62,924,000	May	89,701,000
October	66,951,000	June	101,824,000
November	69,201,000		
December	81,936,000	Total	935,098,000
January	79,565,000	Daily average	2,561,000
February	80,254,000		

1911

The water in the reservoir began to fall on December 27 and continued until May 8, when it reached elevation 55.9. There was then available for use, in the reservoir, 297,280,000 gallons, enough for 115 days at the average daily rate of consumption for the year. During the dry season of 125 days the water fell from elevation 68.5 to 55.9, 12.6 feet.

The rainfall for the year at this reservoir was:

Rainfall, Agua Clara Reservoir.

	Inches.		Inches.
July	17.20	March	.95
August	11.21	April	4.66
September	14.00	May	22.96
October	12.08	June	14.79
November	27.14		
December	22.65	Total	150.69
January	.70	Daily average	+.41
February	2.25		

AGUA CLARA FILTER PLANT.

[See Plate 103.]

A rapid gravity mechanical filter plant was authorized January 21, 1911, to consist of—

A settling basin, 70 by 70 feet, 10 feet deep, divided into four compartments and provided with an influent and an effluent trough.

A mixing box, 31 feet 6 inches by 5 feet, 7 feet 6 inches deep, divided into eight compartments. This mixing box will be provided with girds for applying the coagulant.

A filter house, 41 by 54 feet, three stories high, containing four filters, 17 by 17 feet, having a normal capacity of 825,000 gallons each per day, or a combined maximum capacity of 3,300,000 gallons per day. This building contains also two solution tanks, 9 feet square and 7 feet deep. The lower floor, the operating mechanism, and the third floor provide storage for six months' supply of aluminum sulphate.

A covered clear-water well, 50 by 50 feet, 12 feet 6 inches deep, 200,000 gallons capacity.

An office and laboratory for the use of the filter operator.

All the buildings in this plant are constructed of reenforced concrete. Work was commenced on this plant on January 24, 1911. The concrete-construction work is about 94 per cent completed, and the filter plant as a whole, including installation of piping and filter apparatus, is about 80 per cent completed.

The following table shows the work done:

	Cubic yards.
Concrete placed in—	
Clear-water well	284.1
Settling basin	421.5
Filter house	414.1
Total	1,119.7

1911

Work remaining to be done:

	Cubic yards.
Construction of laboratory	45
Stairways, office, etc	10
Walks, gutters	10
Total	65

Installation of filter apparatus and piping, pipe connections to settling basin and pump house, back fill, and cleaning up.

The concrete work will be finished by the 1st of August, and the plant should be ready for operation about the 1st of October.

SEWERS.

Sewers were extended from time to time, a total of 4,425 feet. Usual maintenance work carried on. The entire system was flushed, generally twice a month.

Fifty-three new house connections were installed.

SANITARY MAINTENANCE.

On request from the sanitary department, 197,834 feet of ditches were cleaned and graded; also 29,160 feet of road ditches were cleaned.

ROADS.

A 16-foot macadam road was constructed from the incinerator to New Gatun, a distance of 1,400 feet; a 12-foot road, 650 feet long, was constructed from the corral to the lumber yard for fire protection; a 3-foot culvert was built to replace the wooden bridge on the road entering the corral; 101 feet of this road was rebuilt.

About 3,100 feet of curb and gutter were constructed along streets in Gatun. About 10,000 cubic yards of macadam and 3,000 square yards of cinders were placed on the roads and paths in repair work during the year.

DITCH AND LEVEE WORK.

Certain ditches and levees were constructed near Mindi providing for changes in drainage made necessary in the disposition of the hydraulic dredge excavation in the canal between Gatun and Mindi. In this work 6,013 cubic yards of fill and 11,115 cubic yards of excavation were made by steam shovel and 4,176 cubic yards of excavation by hand.

COLON.

WATERWORKS.

No changes were made in this system during the year. The usual repairs to breaks, leaks, valves, etc., was carried on as needed.

MOUNT HOPE PUMPING STATION AND FILTRATION PLANT.

The plant was successfully operated during the year. No changes or alterations were made.

The attached table gives the amount of water pumped and filtered at this plant.

1911

Plate 23.



GATUN WATERWORKS, SHOWING THE AGUA CLARA RESERVOIR.

1911

Plate 24.



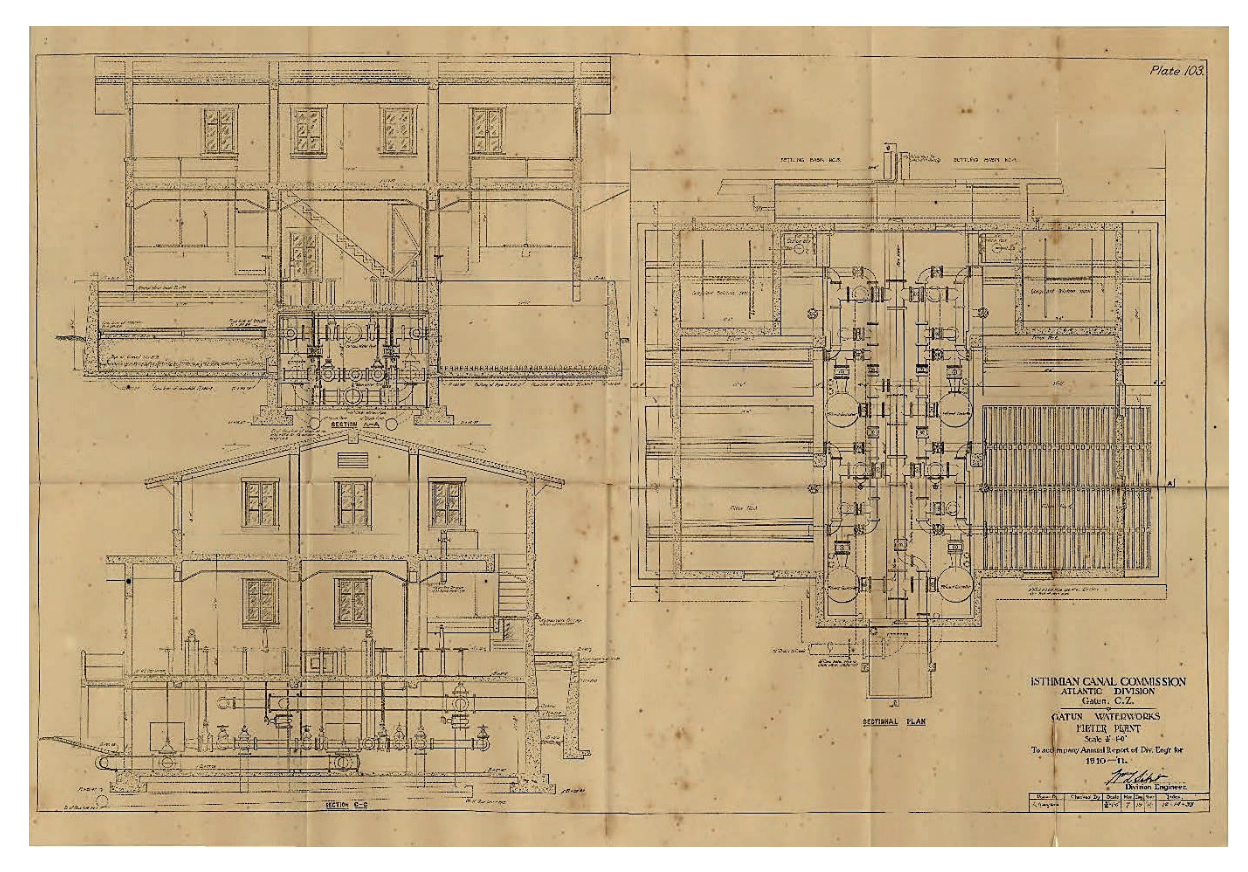
GATUN WATERWORKS, SHOWING PUMP STATION, FILTER BUILDING, SEDIMENTATION BASINS, AND CLEAR WATER BASIN, FORMING THE WATER PURIFICATION PLANT FOR GATUN.

ANNUAL REPORT, ISTHMIAN CANAL COMMISSION.

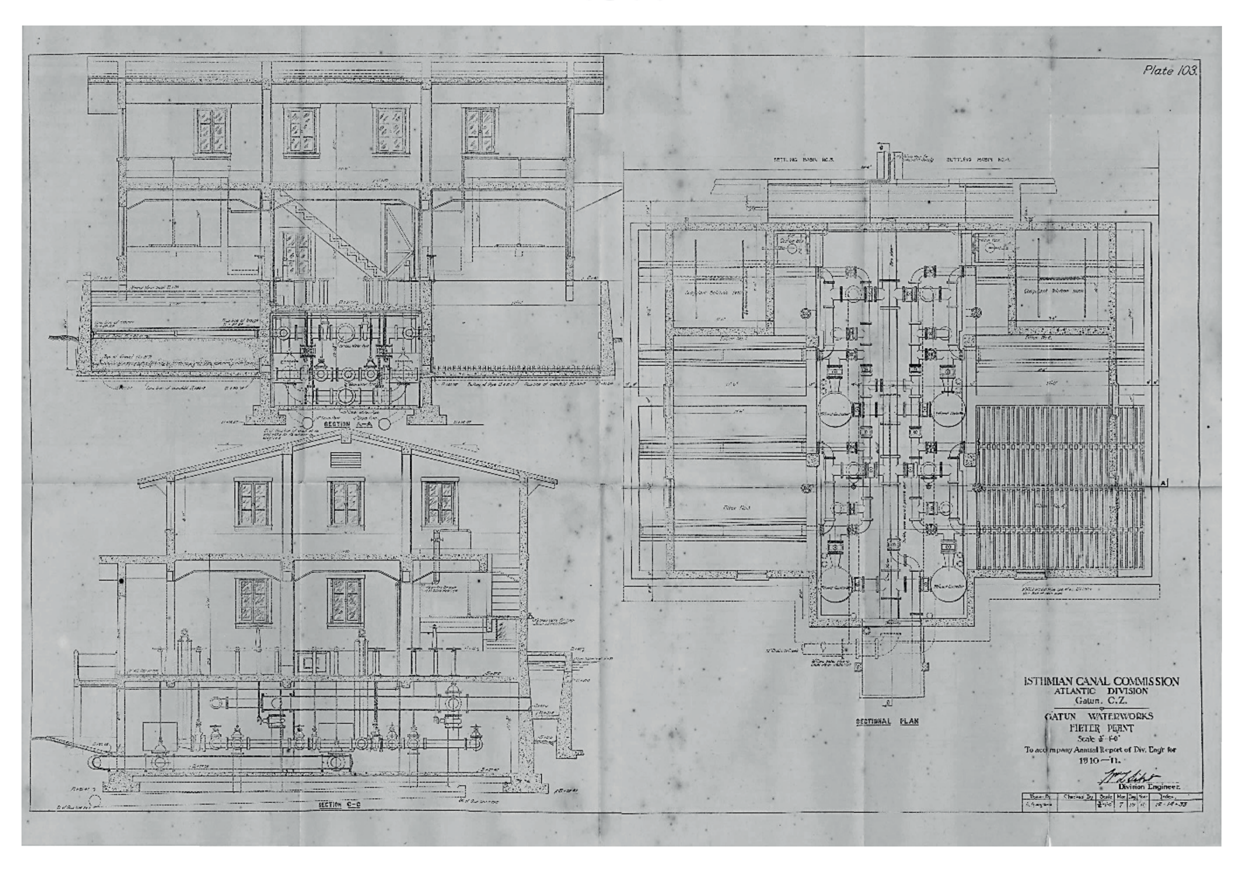
MAPS AND DIAGRAMS.

[Frontispiece and half-tones, Plates 1 to 79, accompany the text.]

1911


Plate 103.
SECTION A-A
SECTION C-C
SECTIONAL PLAN
ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun, C.Z.
GATUN WATERWORKS
FILTER PLANT
Scale ¼"=1'-0"
To accompany Annual Report of Div. Engr for
1910—11.
Division Engineer.

1911


Plate 103.
SECTION A-A
SECTION C-C
SECTIONAL PLAN
ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun, C.Z.
GATUN WATERWORKS
FILTER PLANT
Scale ¼"=1'-0"
To accompany Annual Report of Div. Engr for
1910—11.
Division Engineer.

the effect of the west breakwater could be ascertained, has not been undertaken. It will not be required, so far as available data now at hand indicate, to protect the harbor or shipping in case of northers, though the actual occurrence of such a storm may demonstrate to the contrary. It will not be required by shipping against the trade winds or the waves produced by them. It may, however, be necessary in order to protect the channel against the silting that results both from the wave action and from the erosion of the bank which is now taking place on the shore of the bay west of the channel. It appears that the effect of the west breakwater is to increase the wave action on the beach at Colon, and it is possible that it may have some effect on the eroding process mentioned. What effect the mole being built for the protection of the new Panama Railroad wharves and adjacent anchorage basin at Cristobal will have is also unknown. The question is one of determining the relative cost of maintaining the channel by dredges, as compared with the cost of the breakwater. Another factor which enters into consideration is the final cost of the west breakwater. While the present indications point to the necessity of the construction of an east breakwater for the maintenance of the channel against silting, expenditures in this direction are not yet warranted.

During the past fiscal year 5,514 lineal feet of double track and 48 lineal feet of single track trestle were completed, making the total length of the trestle on July 1, 1912, 10,927 feet. Fill dumped from the trestle aggregated 460,040 cubic yards; in addition, 6,498 cubic yards were used for ballast and 4,680 cubic yards were furnished the fortifications, all of which was procured from the Toro Point quarry, which was shut down on June 22, 1912. Porto Bello rock for the exterior of the breakwater was delivered in August, 1911. The rock was shipped in barges, transferred to Lidgerwood trains by locomotive cranes, and plowed off on the north side of the trestle. During the year 65,133 cubic yards were unloaded in this way. Of the rock removed by the dredges from the canal prism, 510,780 cubic yards were dumped in the vicinity of the trestle. The cost of stone in the breakwater secured from the Toro Point quarry was $1.3832 per cubic yard; that from Porto Bello was placed at a cost of $4.6445 per cubic yard.

The filtration plant which was authorized for the Agua Clara Reservoir in January, 1911, was completed on December 29, 1911, at a total cost of $39,138.95. Due to shortage of water in Colon, Toro Point, and Porto Bello, water was transferred from the Gatun water supply in barges, from January 25 to May 23 to Toro Point, from May 10 to June 24 to Cristobal, and from May 9 to 16 to Porto Bello.

1912

Municipal Engineering.

[Mr. Leslie G. Thom, superintendent, in local charge, July 1, 1911, to December 13, 1911. Mr. George M. Wells, office engineer, in local charge, December 14, 1911, to June 30, 1912.]

GATUN WATERWORKS.

During the year the purification plant at Agua Clara was completed and filtered water turned into the mains on December 29, 1911. The main pipe at the pump station was so arranged as to divide the water main system into two parts, using all mains lying west of the administration building for raw water furnished to plant and equipment and all mains east of the administration building for filtered water for domestic use.

Due to shortage of water at Colon and Toro Point and Porto Bello, it became necessary to transport water in barges from January 25 to May 23 to Toro Point, from May 10 to June 24 to Cristobal, and from May 9 to 16 to Porto Bello.

The average daily consumption exclusively for use at Gatun amounted to approximately 2,500,000 gallons per day. During the time it was necessary to transport water to Cristobal, Toro Point, and Porto Bello this amount was increased to approximately 3,200,000 gallons per day.

The usual work of shifting, relaying, and maintaining miscellaneous pipe lines was carried on and approximately 71,757½ feet of various sizes were handled.

The attached table gives the amount of water filtered and pumped at the Agua Clara pump station from January 1 to June 30, 1912. This does not include raw water:

Agua Clara filters and reservoir.

Month.	Rainfall (inches).	Elevation reservoir (feet).	Alkalinity (per million).		Coagulant aluminum sulphate (pounds).	Turbidity (per million).	
			Raw.	Filtered.		Raw.	Filtered.
1912.							
January	0.75	60.60	25	28	3,266	30	0
February	2.10	58.20	26	17	3,109	28	0
March	.36	55.00	33	17	2,707	20	0
April	.27	51.25	32	30	3,609	50	0
May	13.47	49.90	35	26	3,697	30	0
June	16.25	54.00	46	26	12,000	20	0
	33.20				28,388		

Month.	Color (per) million).		Odor (per million).		Bacteria (per c. c.).		Wash water (gallons).	Monthly consumption (gallons).
	Raw.	Filtered.	Raw.	Filtered.	Raw.	Filtered.		
1912.								
January	75	5	0	0	469	129	1,219,280	16,460,280
February	70	8	0	0	436	160	1,160,800	15,670,800
March	75	8	0	0	469	119	1,515,680	20,461,680
April	60	0	0	0	800	150	1,709,120	23,073,120
May	35	0	Earthy.	0	550	150	1,603,760	21,650,760
June	35	0	0	0	798	101	1,913,600	25,833,600
							9,122,240	123,150,240

1912

AGUA CLARA RESERVOIR.

The regular maintenance of the banks of the reservoir was continued during the year.

The water in the reservoir began to fall on November 7, 1911, and continued to fall until May 29, 1912, when it reached its lowest elevation of 48.60. There was at this time available for use in the reservoir 171,004,000 gallons of water, or a quantity sufficient for 68 days, at an average daily rate of 2,500,000 gallons per day. The dry season practically began on December 1, and continued until May 13. During this time the water fell from elevation 66.6 to elevation 49.75, or 16.85 feet.

The following table gives the rainfall for each month of the year at this reservoir:

Rainfall, Agua Clara Reservoir.

	Inches.
July	8.92
August	10.65
September	7.56
October	16.92
November	17.15
December	1.45
January	.75
February	2.10
March	.36
April	.27
May	13.47
June	16.25
Total	95.85
Daily average	.26+

ROADS, SEWERS, AND DRAINS.

The usual maintenance work on roads, sewers, and drains was carried on.

The entire sewer system was flushed on an average of twice each month.

During the year approximately 10,000 square yards of macadam was laid and repaired.

Approximately 15,000 linear feet of road ditches were cleaned.

About 2,800 linear feet of curb and gutter were laid.

About 3,000 feet of sewers were installed.

SANITARY MAINTENANCE.

During the year approximately 336,000 linear feet of sanitary ditches were cleaned; approximately 8,000 linear feet of sanitary ditches were constructed; and approximately 2,300 linear feet of sanitary ditches were lined with concrete.

CRISTOBAL AND COLON.

WATERWORKS.

The pump station and filtration plant at Mount Hope were operated successfully and without any great difficulty, other than the excessive overloading of the filters, until December 18, 1911, at which

Comparative statement of costs—Gatun spillway—Continued.

REENFORCED CONCRETE.

	1912					
	July.	August.	September.	October.	November.	December.
Concrete placed (cubic yards).	....	112	112	314	....	49
Cement	....	$2.2500	$1.5536	$1.4114	....	$1.4676
Stone	....	2.0003	2.0089	1.8020	....	1.8280
Sand	....	.5383	.5937	.5996	....	.5184
Mixing	....	1.0570	.6969	.7538	....	.5033
Forms	....	5.4806	1.4729	.0475	....	37.1783
Placing	....	.7130	.6712	.0847	....	.9829
Reenforcements	....	16.6386	2.5053	.2012	....	32.0088
Transportation from mixer	....	.6193	1.0717	.3491	....	.3838
Maintenance of equipment	....	.6985	.6819	.2414	....	.2302
Plant, arbitrary	....	.5340	.5340	.5340	....	.5340
Division expense	....	.5650	.4710	.1684	....	2.1493
Total division cost	....	31.0946	12.2611	6.2231	....	78.2040
Administration and general expense	....	4.2853	1.3574	.3168	....	16.0018
Total cost	....	35.3799	13.6185	6.5399	....	94.2067

	1913					
	January.	February.	March.	April.	May.	June.
Concrete placed (cubic yards).	369	....	....	....	....	110
Cement	$1.3381	....	....	....	....	$1.8497
Stone	1.0906	....	....	....	....	.7522
Sand	.4716	....	....	....	....	.2925
Mixing	.3826	....	....	....	....	.8965
Forms	3.1144	....	....	....	....	2.2141
Placing	.6605	....	....	....	....	.8425
Transportation from mixer	.3224	....	....	....	....	.5124
Maintenance of equipment	.2364	....	....	....	....	.0206
Plant, arbitrary	.2510	....	....	....	....	.2568
Division expense	.2990	....	....	....	....	.4063
Total division cost	8.1696	....	....	....	....	8.1396
Administration and general expense	.8804	....	....	....	....	1.3724
Total cost	9.0500	....	....	....	....	9.5120

Excavation amounted to 14,948 cubic yards, costing 43.82 cents per cubic yard. Preparation of foundations amounted to 11,684 cubic yards, costing $1.9794 per cubic yard. Total excavation to date, including preparation of foundations, amounts to 98,751 cubic yards.

A total of 5,068 cubic yards of concrete was placed at an average cost of $9.0463 per cubic yard.

Plans for the underground duct line to the locks and the steam-power plant were received and work was begun the last week in June, 8 yards of concrete being laid as foundation for ducts.

MUNICIPAL ENGINEERING.

[Mr. George M. Wells, office engineer, in local charge.]

The new purification plant at Agua Clara, constructed during the previous fiscal year, was successfully operated throughout the year. This plant consists principally of raw-water mixing chambers; sedi-

mentation basin; four filter units, each having a capacity at 125,-000,000 gallons per acre per day rate, of 750,000 gallons per day of 24 hours; a clear-water basin having a capacity of 225,000 gallons; a wash-water tank having a capacity of approximately 10,000 gallons; an electric-pump station containing two multistage electric-driven pumps, each having a capacity of approximately 1,400 gallons per minute; and two motor-driven air compressors for furnishing air for assisting in cleaning the filters.

The water from the Agua Clara Reservoir is fed by gravity to the mixing chambers, where there is introduced a dose of aluminum sulphate varying from 0.5 to 1.5 grains of chemical per gallon of water. After passing through these mixing chambers, the treated water passes on to the sedimentation basin, where sedimentation takes place, varying from three to eight hours. The water then passes onto the filter beds, consisting of a 16-inch layer of gravel on the bottom supporting a 30-inch depth of specially prepared sand having a mean effective size of approximately 0.4 mm. The water then passes from these filters to the clear-water basin, from which point the pumps force it into the mains leading to the 450,000-gallon high-pressure tower tank located at Gatun. The results obtained from these filters for the period from July, 1912, are given in the table submitted herewith.

The last three months of the fiscal year are not included in the statement because of the fact that experiments had indicated that even more successful results could be obtained by installing an independent wash-water supply fed by gravity from a tank located immediately above the filters on the adjacent hill. During the time that this change was being made the sand and gravel from each filter was removed, washed, and replaced, and the gravel bed increased in depth to take care of the increased wash rate that would result from the new wash supply.

Agua Clara filters and reservoir.

Month.	Rainfall.	Elevation reservoir.	Alkalinity (per million).		Coagulant aluminum sulphate.	Turbidity (per million).	
			Raw.	Filtered.		Raw.	Filtered.
1912.	*Inches.*	*Feet.*			*Pounds.*		
July	13.50	59.2	35.0	26.0	4,500	5.0	0
August	12.60	61.8	29.0	17.0	4,800	2.5	0
September	8.62	63.3	28.0	17.0	4,700	2.5	0
October	17.61	67.7	28.0	18.0	5,210	10.0	0
November	17.65	68.0	33.0	19.1	5,250	10.0	0
December	8.10	68.1	32.9	18.8	5,092	10.0	0
1913.							
January	5.53	66.5	31.0	14.0	5,000	10.0	0
February	3.70	64.4	29.0	14.0	6,045	20.0	0
March	.20	61.1	29.2	11.1	6,920	20.0	0
April	3.75	58.3	....	....	7,750	....	....
May	14.54	58.8	25.0	8.0	8,250	20.0	0
June	10.87	60.2	26.0	10.0	6,375	20.0	0
	116.70	....	....	....	70,822	....	....

1913

Agua Clara filters and reservoir—Continued.

Month.	Color (per million).		Odor (per million).		Bacteria (per c. c.).		Monthly consumption.
	Raw.	Filtered.	Raw.	Filtered.	Raw.	Filtered.	
1912.							*Gallons.*
July	25	0	0	0	1,005	96	22,948,000
August	15	0	0	0	961	82	23,721,000
September	15	0	0	0	1,006	42	19,302,000
October	20	0	0	0	853	23	20,188,000
November	25	0	0	0	721	53	20,595,000
December	25	0	0	0	839	69	23,038,000
1913.							
January	20	0	0	0	825	71	25,996,500
February	35	0	0	0	632	105	24,119,000
March	35	0	S. veg.	0	509	81	28,314,000
April	....	....	....	....	1,261	423	21,421,000
May	50	0	Veg.	0	1,026	196	27,101,000
June	40	0	Veg.	0	829	183	26,361,500
	....	....	....	....	....	....	286,104,000

During the period March 1 to May 12, 1913, 3,225,000 gallons of water were transported from Mindi to Toro Point.

The average daily consumption exclusively for use at Gatun amounted to approximately 2,335,000 gallons per day. During the time it was necessary to transport water to Toro Point this amount was increased to approximately 2,380,000 gallons per day.

The usual work of shifting, relaying, and maintaining the miscellaneous pipe lines of the water system was carried on throughout the year.

AGUA CLARA RESERVOIR.

The regular maintenance of the banks of the reservoir was continued throughout the year.

The water in the reservoir began to fall on January 10, 1913, and continued to fall until May 12, 1913, when it reached its lowest elevation of 57.2.

ROADS, SEWERS, AND DRAINS.

The usual maintenance work on roads, sewers, and drains was carried on throughout the year, and the entire sewer system was flushed on an average of twice each month.

CRISTOBAL AND COLON.

WATERWORKS.

The operation of the pump station and pressure filtration plant at Mount Hope was continued during the year more or less continuously. Considerable difficulty was experienced from time to time in the operation of the filters, due to their being excessively overloaded and to the fact that the sedimentation basin was of such size that the necessary length of time for sedimentation was not possible. This resulted in putting heavy pressures on the filters, causing rapid clog-

feet of 24-inch and 5,307 feet of 20-inch pipe, or a total of 9,055 feet, was maunfactured, of which 3,153 feet was used by this division in municipal work and 2,668 feet furnished other divisions or to individuals and companies.

The usual maintenance work in connection with the reservoirs in this district was performed. The following statement gives the consumption of water from each of the two reservoirs and the elevation of the surface of the water on the last day of each month during the year, together with the amount of rainfall at each point:

	Brazos Brook.			Agua Clara.		
	Consumption.	Elevation.	Rainfall.	Consumption	Elevation.	Rainfall.
1913.						
July	88,511,000	40.7	11.51	76,000,000	59.8	15.99
August	79,122,000	43.5	17.03	69,276,000	62.5	12.36
September	74,857,000	43.5	11.96	59,184,000	63.4	7.97
October	79,903,000	46.5	17.85	61,977,000	68.2	16.48
November	88,078,000	49.9	21.32	49,526,000	68.2	19.81
December	96,388,000	49.9	12.52	43,937,000	68.2	10.71
1914.						
January	94,426,000	48.3	.97	39,729,000	66.7	.77
February	78,923,000	49.0	2.46	35,840,000	65.1	1.85
March	103,696,000	48.8	1.21	43,691,000	63.0	1.07
April	117,516,000	48.5	6.05	40,598,000	61.6	5.75
May	119,652,000	48.4	13.37	44,049,000	63.0	13.03
June	120,251,000	48.3	15.89	40,423,000	66.2	14.32

The level of the water in the Brazos Brook Reservoir was kept at about the same point during the dry season by letting water down from Gatun Lake through the tunnel, which was mentioned in the last annual report as a part of the new Colon waterworks system.

The two pump stations in this district were maintained and operated as usual. An average of 95,118,000 gallons per month was pumped at Mount Hope, and an average of 50,353,000 gallons per month at the Gatun waterworks, Agua Clara. The new pump station at Mount Hope was completed and placed in service on February 23, and has been operated continuously since that date.

The new water-purification plant at Agua Clara, a part of the waterworks for the town of Gatun, was successfully operated throughout the year. A description of this plant was given in the annual report for the year ending June 30, 1913. (See plate No. 16.)

The new water-purification plant located at Mount Hope, and furnishing water to the city of Colon, Cristobal, and adjacent district, was completed and placed in service in February, 1914, and has been successfully operated since that date. A general description of this plant was given in the annual report for the last fiscal year. (See plates Nos. 17 and 18.)

SOUTHERN DISTRICT.

In the southern district, which includes all points south of Frijoles, the division performed the usual maintenance work on streets and roads and water and sewer systems, which included the taking up of a great deal of water pipe in towns on the west side of the canal

pumped into the service mains and into the high and low service reservoirs.

Pending action on this recommendation various studies of the flow of the salt water from the locks into the lake were made. In an effort to draw off the heavy saline water lying at the bottom of the lake the surface was drawn down to approximately elevation 40 feet above sea level, and the lake was refilled with fresh water from Culebra Cut. This operation tended to distribute and diffuse the water of high chlorine content within the vicinity of the Pedro Miguel Locks, with the result that the general chlorine content of the lake was found to be higher after the operation than before. Further, the chlorine was found to have extended up the Caimitillo, Pedro Miguel, and Cocoli River arms of the lake, thereby indicating more or less conclusively that the presence of any water carrying a higher chlorine content than the normal fresh water was accompanied by constant diffusion and tendency of the general chlorine content of the lake to rise.

On May 11 decision was finally made to adopt Gatun Lake at Gamboa as a source of permanent water supply and work was commenced immediately to this end. By the end of the fiscal year the excavation for the sump for the raw-water pump station at this point had been practically completed and the specification and plans for the cast-iron pipe line from this plant to Miraflores accompanied by specifications was ready for bidders.

OPERATION OF PURIFICATION PLANTS.

The operation of water-purification plants in the Canal Zone was in charge of the physiologist of this division.

At the Agua Clara plant the wash-water tank, having a capacity of approximately 10,000 gallons, referred to as under construction in the last annual report, was completed and placed in service. This resulted in more satisfactory wash conditions in connection with the operation of the filters, increasing the rate of wash water from approximately four to nine gallons per square foot of area of filtering surface.

The completion of the construction work at Gatun resulted during the year in a marked drop in the consumption of water, which in turn resulted in the operation of the filters at less than one-half their rated capacity. With the view to keeping all the filters in the plant in service, the rate controllers were changed so as to give a filtration rate of approximately 65,000,000 gallons per acre per day. This gave satisfactory results for the first part of the year, but resulted during the last three months in the development to a more or less extent of growths in the underdrains, which has resulted in an increase of the bacterial count in the filtered water.

The new purification plant at Mount Hope is similar in practically all respects to plants of like character constructed in the United States, with the addition of an aeration basin containing more or less elaborate nozzles for breaking the water into fine spray as preparatory treatment to sedimentation. In the design of the aeration nozzles arrangements were made whereby the nozzles automatically open or close depending upon the flow through the filters, and thus is automatically controlled the input of raw water to the plant. This

device, which it is believed has not been embodied in plants of this character heretofore, has given excellent service during the first three months of operation.

The aeration system, in addition to assisting in removal of odors and taste, also decreases the iron content of the water by oxidizing and precipitating that portion which exists as ferrous oxide or hydroxide. However, to date, this portion of the iron content has been almost negligible, and most of the iron has been found existing as iron organic compounds, so that straight coagulation and sedimentation has been sufficient to remove it. During aeration the free carbonic acid is almost completely removed and the dissolved oxygen content increases practically to the saturation point.

The sedimentation basins have been operated on a more or less experimental basis in order to determine the period of sedimentation that would give best results from all standpoints. With one basin in use under the present output from the plant approximately five hours sedimentation is obtained, and two basins in service gives double this period. It has been indicated by the condition of the water for the past three months that a longer period of sedimentation results in longer filter runs and requires a less amount of wash water for cleaning. On the other hand, however, the longer period seems to favor bacterial growths both in the basins and the filters, resulting in a lower relative efficiency based on apparent bacteria removal. With the shorter period of sedimentation, the bacteria removal has been quite satisfactory and the tendency toward bacterial growth seems to be lessened. The high temperature of the water averaging 29° C., flowing into the sedimentation basin gives rise to excessively heavy floc, necessitating weekly cleaning of the basins. The amount of sludge produced in a week's time is remarkable, and although the organic content of the raw water is comparatively high this great amount of sludge is one of the striking characteristics of the plant.

The average results obtained from the old pressure filter plant at Ancon and at Mount Hope and from the gravity filter plant at Agua Clara for the past year are shown by the following table:

	Mount Hope.	Agua Clara.	Ancon.
Gallons water filtered, monthly average	89,846,000	45,332,000	77,009,000
Gallons water filtered, daily average	2,994,854	1,511,079	2,566,980
Bacteria in raw water per c. c	737	511	624
Bacteria in filtered water per c. c	367	182	455
Alum used, pounds, average per month	29,040	13,920	19,620
Alum used, pounds, average per day	968	464	654
Alum used per gallon, grains	2.1	2.1	1.7

The average results of the operation of the new Mount Hope plant for the last three months of the year are given below:

Gallons treated	123,239,000
Wash water, gallons	11,883,000
Per cent wash water	9.9
Filters washed	278
Average minutes wash water	7.8
Alum, grains, per gallon	2.23
Average filter, hours per day	82.5
Average number filters, service	3.4
Average length run between washing, hours	9.3

1914

The following table gives the average result of analyses of raw and filtered water at the new Mount Hope purification plant for the last three months of the year, and of the Agua Clara filter plant for the last six months of the year:

	Mount Hope.		Agua Clara.	
	Raw.	Filtered.	Raw.	Filtered.
Turbidity	25	....	25	....
Color	50	9	85	2
Alkalinity	34	29.8	23	6
Chlorine	6.7	6.3	6.4	6.4
Oxygen consumed	4.6	1.8	5.2	1.8
Nitrates	Trace.	....	Trace.	Trace.
Iron	1.0	.3	1.2	Trace.
Free CO_2	3.7	6.9	5.1	10.1
Total solids	98	69	95	80
Loss on ignition	31	20	54	12
Number times B. coli present in month in—				
10 c. c	16	3	15	1
1 c. c	8	....	4	....

The Miraflores Lake water is polluted to a more or less extent by the sewage from the towns of Pedro Miguel and Paraiso and the floating equipment operating through the canal. The use of this water as a domestic and industrial supply for the southern end of the canal makes imperative its treatment with hypochlorite of lime.

The necessary solution tanks, control apparatus, and measuring orifices were designed and constructed as a part of the temporary pumping station at Miraflores, and hypochlorite bleach was introduced into the water on the suction side of the pumps at the time this station was first placed in service in the month of October.

The turbid conditions obtaining demanded the use of comparatively high quantities of bleach per million gallons of water. At times this quantity reached 30 pounds of chemical per million gallons of water, giving approximately 1.2 parts per million available chlorine without objectionable tastes or odors being complained of by the consumers. The comparatively high temperature of the water, combined with high organic and low mineral content, no doubt explains this. On an average 0.7 to 0.8 parts per million of available chlorine has been giving satisfactory bacteriological results.

DESIGNS.

The work accomplished in the drafting room of the division office covered the complete studies and designs of the entire water-supply project for the southern end of the canal. This involved the making of approximately 300 large tracings of general and detail plans of buildings, equipment, and control apparatus entering into the construction of the purification plant and pumping stations. At the end of the fiscal year all of the principal drawings had been completed, and there remains at this date the studies and designs of numerous small control apparatus to be installed in connection with the application of the chemicals at the Miraflores purification plant. There also remains to be designed certain laboratory equipment and details of small devices to be embodied therein.

1914

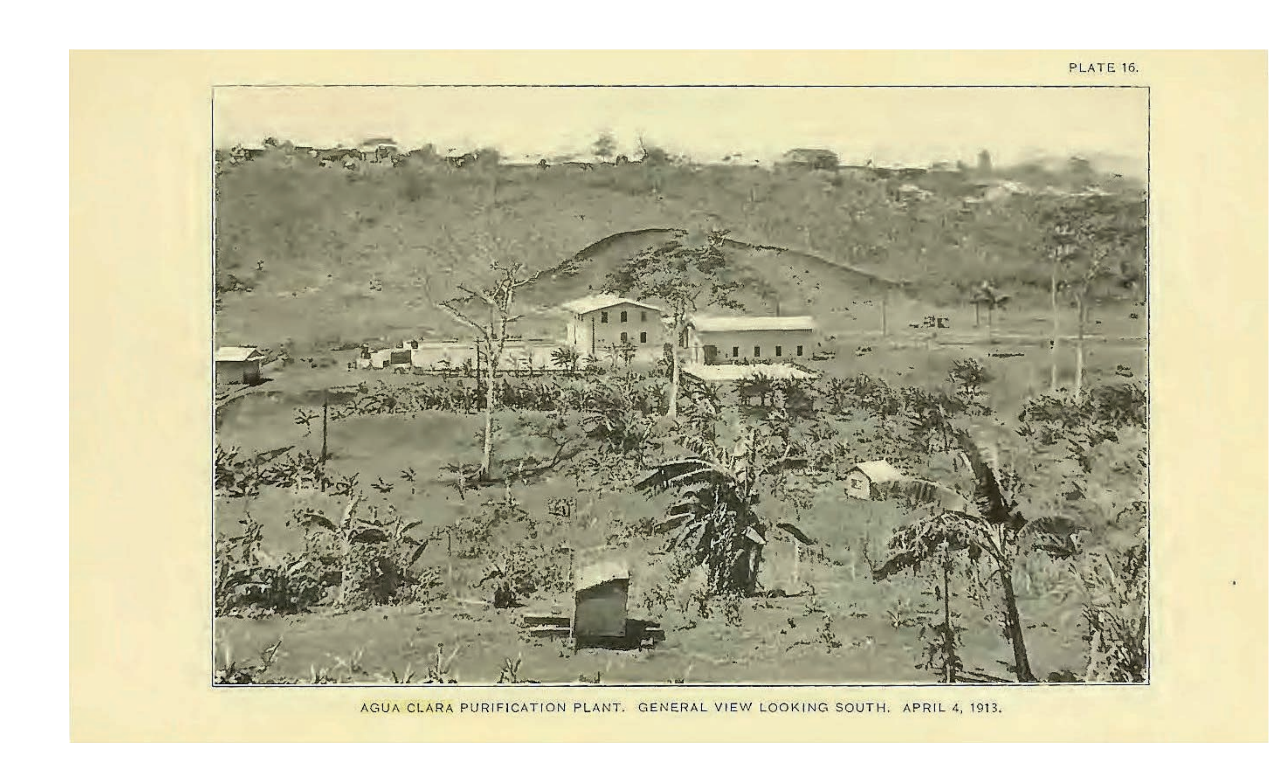


PLATE 16.

AGUA CLARA PURIFICATION PLANT. GENERAL VIEW LOOKING SOUTH. APRIL 4, 1913.

1914



PLATE 16.

AGUA CLARA PURIFICATION PLANT. GENERAL VIEW LOOKING SOUTH. APRIL 4, 1913.

CANAL  RECORD

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Ancon, Canal Zone,

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NOTES OF PROGRESS.

New Water Supply for Gatun.

Plans have been prepared and approved for a new water supply for Gatun. The reservoir will be located about one-half mile east of the native settlement, and about a mile and one-half from the new Panama railroad station. The basin is a natural one, and only a small amount of excavation will be necessary to prepare it. The lake area will be 94.65 acres, and the area of the water-shed 676 acres. Most of the land comprising the watershed lies in the tract known as the San Jose de Bellavista, and is owned by the Panama Railroad Company. It will be cleared of habitations and guarded from contamination in the same manner as other Zone drainage areas.

The reservoir, which will be 73 feet above mean sea-level, will be fed by a perennial creek called the Quebrada los Guacas. The maximum flow of this stream on a single day in the rainy season was 20,000,000 gallons. On April 15, 1909, at the close of the dry period, a minimum flow of 233,280 gallons was recorded. The capacity of the basin will be 611,952,000 gallons, making it the second largest reservoir in the Zone, and this may be increased by elevating the dam. The maximum daily quantity of water which will be required at Gatun during the next five years for all purposes has been estimated at 2,000,000 gallons, and the reservoir will store enough water to last 200 days.

The waters of the lake will be impounded by the Agua Clara dam, which will have an elevation of 58 feet. The downstream face will be constructed of spoil from the Canal, and the upstream face of selected material taken from the reservoir site. The spillway will have a width of 100 feet, and will be 68 feet high at its crest. The floor and sides will be concreted, the latter to elevation 73. It is calculated that with two feet of water over the sill, the spillway will safely pass a rainfall over the entire watershed corresponding to three inches per hour.

The plans also call for a filtration plant, a sedimentation basin, into which water from the lake will flow before passing through the filter, and a pumping station. A 16-inch main will lead to the sedimentation basin, and a 12-inch main from the pumping plant to the present tank at Gatun where it will be distributed. A spur track is being constructed from a siding on the relocated line of the Panama railroad, to the trestle at the site of the dam, which will be used in transporting material and supplies. This road crosses the Mount Hope-Gatun public highway, and will be operated to the reservoir by means of a switchback.

The Gatun reservoir will be the fifth in the Canal Zone, fed by streams. The list is as follows:

NAME.	Location.	Capacity.	Drainage area.	Lake area.
		Gallons.	*Acres*	*Acres*
Brazos Brook	Near Mt. Hope	641,000,000	640	120
Gatun.. ..	Near Gatun...	611,952,000	676	95
Rio Grande..	Rio Grande...	496,670,000	2,015	65
Camacho.....	Camacho......	295,867,000	592	38
Carabali.....	Near Gorgona.	80,000,000	1,552	20.5

Overtime and Longevity.

The Sundry Civil Bill, approved March 4, 1909, contains the following paragraph:

"No part of the foregoing appropriation for the Isthmian Canal shall be applied to the payment of allowances for longevity service or lay-over days other than such as may have accumulated under existing orders of the Commission prior to July 1, 1909."

Under this Act, after June 30, 1909, no lay-over days can be allowed for overtime by steam shovel crews, or construction train crews, and no additional longevity increases can be authorized. But the Act in nowise changes the provisions of the eight hour law under which hourly gold employes receive time and a half pay for work in excess of eight hours in any one working day, or for Sundays and holidays.

Canal Medals.

A list of the employes of the Isthmian Canal Commission and the Panama Railroad Company, who earned the Canal Medal prior to December 31, 1908, was sent to the States on May 20. The medals have been minted, and the engraving of the names, numbers, and years during which service was rendered, will begin immediately.

An additional list is being prepared at Culebra of employes entitled to the Medal who have left the service of the Commission, which will show the present address of those employes wherever the address is known. Medals for names on this list will be distributed from the Washington office. The Medals of employes who are still in the service will be distributed on the Isthmus.

The first 100 names of employes entitled to Canal Medals, together with the order in which the Medals will be numbered, is printed elsewhere in this issue of THE CANAL RECORD. There are 2,264 names on the list, and any person desiring to know the number of his Medal can obtain the information by sending an addressed postal card to the office of THE CANAL RECORD, Ancon, C. Z., and stating the date of his arrival on the Isthmus.

Survey of the Chagres River Basin.

The survey of the watershed of the Chagres River which was begun last November is advancing steadily. Four parties are at work, and during the month of April the survey of the Esperanza River was finished by party No. 1. This river is a tributary of the Chagres and enters it about thirty-eight miles above Gamboa. The extreme point located on the divide at the head of the Esperanza is about fifty miles easterly from Gamboa. On April 23, party No. 1 began the survey up the main branch of the Chagres, starting at the mouth of the Esperanza.

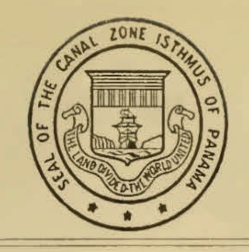
Party No. 2 has completed the survey of the upper Indio River, which flows into the Chagres about twenty-five miles above Gamboa, and has established a point on the dividing ridge at an elevation of about 2,000 feet above sea-level. In running the last six miles of the line the party traveled light, taking no camp equipment except blankets and a few cooking utensils, and sleeping at the end of their day's run. On April 10, about two miles of line was run connecting the Indio River survey with points on the Chagres River line.

Party No. 3 was at work during the month on the Pequeni River, which enters the Chagres about twenty miles above Gamboa, and established points on the northeasterly divide, between the Chagres and the San Blas country. Their farthest point is about fifty miles northeast of Gamboa. This party will cross the divide and run to Nombre de Dios, about ten miles distant, and tie their line to an established point at that place. When the line to Nombre de Dios has been finished, party No. 3 will start at the mouth of the Piedras River, about thirty-five miles above Gamboa, and run a line to the divide between that river and the Mamoni River, a tributary of the Bayano River, which flows into the Pacific Ocean about twenty-five miles east of Panama.

The points located by parties Nos. 1 and 3 will be tied in by triangulation by parties working from the mountains in the Bayano basin, using Chepo as a base, and locating their points from the islands of Taboga and Chepillo in Panama Bay.

Party No. 4 has been working up the Boqueron River, a tributary of the Pequeni

1909

CANAL  RECORD

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The Canal Record

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NOTES OF PROGRESS.

Filter Plant at Gatun.

The detailed construction drawings for the sedimentation basin, filter plant and clear water well, which has been authorized for installation in connection with the new Agua Clara water works, are nearly completed, and requisitions for controllers, valves, pipes and other operating parts will go forward in the near future.

The filters are to be what is known as the "Rapid gravity" type, and are designed to deliver a daily output of 2,500,000 gallons of filtered water when three of the four beds are in service. Each of the four beds will be approximately 17 feet square, giving a rate of filtration equivalent to 100,000,000 gallons per 24 hours per acre. The coagulation basin will be about 75 feet square, divided into four compartments, and of such capacity as will give sedimentation of about three hours' duration.

The filtered water will pass by gravity from the controllers through the filters to a covered clear water well having a capacity of about 225,000 gallons. From this well the water will be pumped by the new electrical pump recently installed, to a 400,000-gallon storage tank at Gatun.

Canal Work in November.

The grand total of Canal excavation in November was 3,006,037 cubic yards, which is the greatest excavation for this month since the beginning of the Canal work. A comparison with previous years since the work was fully developed, follows:

YEAR.	Cubic Yards.	Mean rainfall.
1910	3,006,037	14.83
1909	2,458,152	28.50
1908	2,920,494	11.66
1907	1,838,486	10.73

Of the grand total in November, 2,659,046 cubic yards were charged to "work excavation," and 346,991 cubic yards to "plant" excavation. The dry excavation amounted to 1,605,182 cubic yards and was principally by steam shovels. The dredges removed 1,348,611 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges, and the sluicing plants, 52,244 cubic yards. The progress on the locks at Gatun, Pedro Miguel and Miraflores is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 909,070 cubic yards, the greatest amount of record for November. Of this total, 119,510 cubic yards were "dry" excavation, and the remainder was removed by dredges in the Atlantic entrance.

The total excavation in the Central Division—1,470,436 cubic yards, likewise established a new record in that division.

In the Pacific Division, the total excavation was 626,531 cubic yards, 559,051 cubic yards of which were taken out by the dredges at the Pacific entrance, and 47,444 cubic yards by the sluicing plant at Miraflores Locks.

A detailed statement of the excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	94,552	24,958	119,510
Mindi	....	....	....
Total	94,552	24,958	119,510
Wet excavation—			
Atlantic entrance	600,708	188,852	789,560
Locks, Dam and Spillway	....	....	....
Total	600,708	188,852	789,560
Total wet and dry excavation	695,260	213,810	909,070

CENTRAL DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—			
Culebra Cut	1,209,554	....	1,209,554
Chagres section	256,082	....	256,082
Wet excavation—			
Chagres section	4,800	....	4,800
Total	1,470,436	....	1,470,436

PACIFIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—			
Locks, Dams and Spillways	20,036	....	20,036
Diversions	....	....	....
Prism, south of Pedro Miguel Locks	....	....	....
Total	20,036	....	20,036
Wet excavation—			
Pacific entrance	425,870	133,181	559,051
Miraflores Locks	47,444	....	47,444
Diversions	....	....	....
Total	473,314	133,181	606,495
Total wet and dry excavation	493,350	133,181	626,531

TOTAL CANAL EXCAVATION.

	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation	1,580,224	24,958	1,605,182
Wet excavation	1,078,822	322,033	1,400,855
Total	2,659,046	346,991	3,006,037

Mean rainfall along Canal (twelve stations) 14.83 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams	395,771	56,404	452,175
Concrete laid in locks	75,152	88,119	163,271
Concrete laid in dams and spillways	5,651	....	5,651

Excavation Record in Culebra Cut.

The excavation from Culebra Cut in November amounted to 1,209,554 cubic yards and was the greatest record in that section for the month of November, as the following comparison will show:

NOVEMBER.	Cubic Yards.	Rainfall.
1910	1,209,554	8.85
1909	1,070,792	20.99
1908	1,022,576	4.46
1907	790,632	10.40

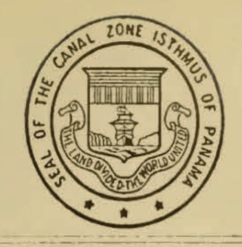
Mooring Buoys at Pacific Entrance.

In view of the changes that are to be made in the Balboa docks and the consequent curtailment of berthing facilities at that point, two mooring buoys and six mushroom anchors will be put down at the Pacific entrance to the Canal, on the right side close to the bank, so that ships can be brought in to load from or discharge into lighters, as the case may be. These buoys will also be of assistance in coaling war vessels. In addition to reducing the cost of towing, it is believed they will eliminate the possibility of lighters sinking during heavy weather in the harbor. The work will be done by the Pacific Division, and its cost will be borne by the Panama Railroad Company.

Panama Railroad Relocation from Gamboa to Pedro Miguel.

A survey for the location of the Panama railroad from Gamboa to Pedro Miguel, a distance of about 10 miles, parallel with the Canal, but at sufficient distance east of it to avoid interruption from the sliding of the banks, has been completed, and construction of the new line has been begun.

On July 30, 1908, a report made on data then available recommended the construction of this section of the relocated line on the 45-foot berm on the east side of Culebra Cut at 95 feet above sea level. On July 23, 1910, a committee reporting on present conditions recommended the construction of the line at a distance east of the Canal, in order to avoid interruptions to traffic during the time when the banks of Culebra Cut are assuming their

CANAL  RECORD

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NOTES OF PROGRESS.

Acting Chairman's Report.

The report of the Acting Chairman of the Isthmian Canal Commission for the month of January is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Reduction in Prices at Commissary.

A reduction in prices of staple articles at the commissaries has been made that will result in a net saving of $11,000 a month to the purchasing public. All tinned milk, of which 4,200 cases of 48 cans to the case are used each month, has been reduced from 10 to nine cents a tin; 5-pound bags of sugar, from 22 to 20 cents; American peas and corn, in tins, from 12 to 10 cents; fresh pork, from 16 to 14 cents a pound; fresh eggs, from 29 to 27 cents a dozen; working shirts and overalls, of which 12,000 are sold each month, reduced five cents a garment; and corresponding reductions have been made in many articles of wearing apparel.

Major Wendell L. Simpson, Assistant Purchasing Officer at New York, was on the Isthmus two weeks ago in consultation with the commissary on the purchase and delivery of supplies. He was accompanied by representatives of various firms in the States that supply goods to the commissaries, who wished to study local conditions, in order that their goods, and the packing of them, may conform with the requirements on the Isthmus.

Gatun Locks.

The placing of concrete in the third or lowest pair of locks at Gatun has been begun. Concrete work is in progress in all of the locks at Gatun, and the amount already placed, together with its proportion to the whole, is shown in a statement published elsewhere in this issue. On account of the unstable condition of the banks of the lower locks, where small slides have caused much inconvenience, the plan of construction during the dry season will be to complete the outer walls to a height of 25 feet in the places where the material is sliding, thus forming a retaining wall. The tracks for the cableways may then be extended the full length of the locks, and the walls may be completed during the next rainy season to their full height of 79 feet. The excavation in Gatun Locks is almost completed. All that remains to be taken out is a small amount of material in the northeast corner of the lower locks where a slide occurred recently.

It is expected that the first shipment of structural steel for the lock gates will arrive about April 1, and the preparations for handling it are advancing.

Apparatus for Lock Gate Construction.

Two 75-kilowatt motor-generator sets, with a switchboard for control of each, were received on the Isthmus on February 10. One of these sets will be placed in a substation at Gatun Locks, and the other in a substation at the Pedro Miguel Locks. They are furnished by the Commission in connection with the construction of the lock gates, and will operate on 25-cycle, 2200 volt energy transmitted from the power stations at Gatun and Miraflores. The motor-generators will convert the alternating current from the power houses to direct current at 220 volts for use on the various small tools required in the construction of the gates. In addition, the gate contractors will install, at their own expense, two motor-driven air compressors at each of the substations to operate the pneumatic tools.

Increase in Output of Porto Bello Crusher.

The increase in output of the crusher plant at Porto Bello, since the installation of the large No. 21 crusher, has made it possible to reduce the number of working hours each day from 16 to eight. In September, the day was reduced from 16 to 12 hours; in January, from 12 to 10, and on February 16, from 10 to eight hours. The output of the plant has increased from 150 cubic yards an hour to 300 cubic yards, and 70,000 cubic yards of crushed stone are now in storage at Gatun, a supply sufficient to last almost a month, even if no more rock was delivered there. A statement of the rock crushed during the week ending February 18, follows:

DATE.	Hours worked.	Cubic Yards.
February 13	7:22	2,817
February 14	8:28	3,732
February 15	6:19	3,079
February 16	3:08	1,683
February 17	5:01	1,997
February 18	7:11	3,164
Total	37:29	16,472

Suction Dredging Near Mindi.

A trestle about 6,500 feet long has been completed at Mindi, parallel with and east of the Panama railroad, and it is now being filled with spoil from the excavation at Mindi and the locks. This fill will make a dike, behind which the suction dredge at work in the Canal channel between Mindi and Gatun Locks will pump about 4,000,000 cubic yards of material. The dredge *Sandpiper* is already excavating in this section, depositing its spoil on the flats between the dike which parallels the Canal in this place, and the Panama railroad. The pumping of the spoil back of the new dike will begin about March 1.

Gatun Filtration Plant.

The laying of concrete for the filter plant at Gatun has been begun, and the amount required will be about 1,200 cubic yards. The work includes the construction of a sedimentation basin about 75 feet square, of a filter house three stories high, and a clear water basin, with a capacity of about 225,000 gallons. The filter house will contain four rapid gravity sand filters on the first floor, an operating gallery on the second floor, and a storage room for materials on the third floor.

Cement Deliveries.

Commencing with the sailing of the cement ship *Cristobal* from New York about March 3, daily deliveries of cement to the Pacific Division will be reduced 800 barrels and deliveries to the Atlantic Division will be increased 500 barrels. Under the new arrangement, the Pacific Division will receive 2,700 barrels, and the Atlantic Division 3,500 barrels of cement per day. Five hundred barrels of the consignment to the Atlantic Division will be in bags. The deliveries to both divisions, beginning with the sailing of the *Cristobal*, will total 6,200 barrels per day, as compared with 6,500 barrels per day at the present time. Since January 19, 1911, the Pacific Division has been receiving on an average 4,281 barrels of cement daily and a considerable stock has been accumulated. On this account, in addition to serving the concrete mixing plants, and in order to ship empty cement bags to Colon, the division has been compelled to hold in service from 40 to 45 box cars. The matter of box car detention was recently made the subject of an investigation by a committee, consisting of Mr. S. B. Williamson, chairman; Messrs. W. J. Holmes and A. K. Stone, members, and the following recommendations were submitted, all of which have been approved by the Acting Chairman and Chief Engineer:

1. That as the detention of cars in the Pacific Division is primarily due to the irregular sailings of chartered cement steamers, thus causing a congestion in the shipments, the dates of their arrival be regulated, so that the Panama Railroad Company ship daily to the Pacific Division the approximate amount agreed upon.

2. That the Pacific Division be allowed to ship cars containing empty cement bags as soon as loaded, so that they may be stored in

1911

CANAL RECORD

SEAL OF THE CANAL ZONE ISTHMUS OF PANAMA — THE LAND DIVIDED THE WORLD UNITED

Volume V. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 10, 1912. No. 20.

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NOTES OF PROGRESS.

New Filtration Plant in Service.

Water from the new filtration plant at Agua Clara Reservoir, which supplies the villages of Gatun, New Gatun, and Spillway, was turned into the mains on December 29 and the carts, which had been delivering distilled water to the houses for drinking and domestic purposes, were dispensed with on January 5. Water for all purposes is now drawn directly from the taps. The Agua Clara filtration plant is the first of its kind on the Isthmus, being distinguished from those previously constructed principally in having the water pass through the filter beds by gravity, instead of under artificial pressure.

Canal Work in December.

The grand total of Canal excavation to January 1 was 158,092,940 cubic yards, leaving to be excavated 37,230,439 cubic yards, or about one-fifth of the entire amount for the completed Canal.

The total for December was 2,439,276 cubic yards, as compared with 2,946,404 cubic yards in December, 1910, and 2,811,681 cubic yards in December, 1909.

The dry excavation amounted to 1,542,593 cubic yards, and was principally by steam shovels. The dredges removed 894,346 cubic yards, and 2,337 cubic yards were sluiced in the Central Division, in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun, Pedro Miguel, and Miraflores is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 665,585 cubic yards. Of this total, 50,199 cubic yards were dry excavation, and the remainder was removed by dredges in the Atlantic entrance.

The total excavation in the Central Division was 1,361,981 cubic yards, all of which was from the prism. The amount taken from Culebra Cut was 1,351,082 cubic yards, as compared with 1,211,400 cubic yards in December, 1910.

In the Pacific Division, the total excavation was 411,800 cubic yards, 278,960 cubic yards of which were taken out by dredging at the Pacific entrance.

A detailed statement of the excavation, and a summary of the work on the locks and dams, follow:

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total excavation.
ATLANTIC DIVISION.			
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway..................	....	....	....
Mindi..................	50,199	....	50,199
Total..................	50,199	....	50,199
Wet excavation—			
Atlantic entrance	533,409	81,977	615,386
Locks, Dam and Spillway..................	....	....	....
Total..................	533,409	81,977	615,386
Total wet and dry excavation..........	583,608	81,977	665,585
CENTRAL DIVISION.			
Dry excavation—			
Culebra Cut............	1,351,082	....	1,351,082
Chagres section	8,472	....	8,472
Wet excavation—			
Chagres section........	2,337	....	2,337
Total..................	1,361,891	....	1,361,891
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways..................	96,800	....	96,800
Diversions..............	36,040	....	36,040
Prism, south of Pedro Miguel Locks.......	....	....	....
Total..................	132,840	....	132,840
Wet excavation—			
Pacific entrance	278,960	....	278,960
Miraflores Locks......	....	....	....
Inner Harbor.........	....	....	....
Total..................	278,960	....	278,960
Total wet and dry excavation.........	411,800	....	411,800
TOTAL CANAL EXCAVATION.			
Dry excavation	1,542,593	....	1,542,593
Wet excavation	814,706	81,977	896,683
Total..................	2,357,299	81,977	2,439,276

Mean rainfall along Canal (eleven stations), 1.19 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, or locks, etc.; that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside of any of the constituent parts of the Canal, such as prism, diversions, or locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete laid in locks.	43,590	63,132	106,722
Concrete laid in dams and spillways	3,543	....	3,543
Fill placed in dams...	322,815	31,080	353,895

Lower Approach Floors at Pedro Miguel.

Drainage from the portion of Culebra Cut south of the summit, near Empire, passes through a ditch in the upper approach to the east chamber at Pedro Miguel Lock and flows through a culvert in the center wall to a point below the site of the lower guard gates, where the culvert debouches into the lower approach chambers, on both sides of the approach wall. For the purpose of laying the floor in the west approach, the apertures on that side were stopped with timber gates and the water was passed through a diked channel at the east base of the approach wall, passing into the Rio Grande below the locks. That floor having been finished, the water has been turned into the west chamber in order that the flooring for the east chamber may be completed. To prevent backflooding above the aperture a dike of sacks of cement has been thrown across the chamber on the sill for the lower guard gates. A locomotive crane, equipped with grab-bucket, has been engaged in making a channel for the flow of the water into its former path to the Rio Grande. Steamshovel No. 50 is engaged in removing the levee of earth and sheeting by which the water was formerly conducted down the east side. A steam pump is drawing the backflow and rain water from the lower east chamber, and the electrically operated pump, which has been in use for that purpose, will be removed.

New Main from Rio Grande Reservoir.

Pipe is being distributed for the laying of the new 20-inch water main from the Rio Grande Reservoir to Panama, to replace the present 16-inch pipe line. The contract for materials calls for 49,000 linear feet of 20-inch pipe, with accessory tees, bends and reducers. The new line will follow the location of the present main as far as Pedro Miguel Lock, where it will cross the Canal by being set in the concrete of the piers and sills for the emergency dams, at the upper end of the lock proper. From Pedro Miguel to Panama it will follow the line of the Panama railroad. Along the portion of the track bordering on Miraflores Lake it will be laid well above the normal surface of the lake. The new main will have an increased capacity of, theoretically, 56 per cent above the old one. It is probable that the capacity of the Rio Grande Reservoir will, later on, be increased by building higher the retaining dam.

Removal of Dike at Mindi.

A natural dike of rock separates the water in the Canal channel between the Atlantic Ocean and Mindi from the excavation made by steamshovels and dredges between Mindi and Gatun Locks. It is planned to remove this dike by blasting, allowing the water to submerge the channel, and to complete the excavation with dredges. It is about 700 feet long, crossing the 500-foot channel at an angle. The top is about 40 feet wide and the sides slope approximately 2 on 3. Excavation is to be made to 41 feet below sealevel.

The dike will be perforated from the inland side with horizontal rows of 100 drill holes.

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AGUA CLARA PLANT.

Filtration by Gravity instead of under Artificial Pressure.

The new filtration plant at Agua Clara Reservoir is of a type new to the Isthmus, though it is being adopted in the States.

The raw water from the reservoir at Agua Clara passes into a mixing box, where it receives an infusion of alum, in the proportion of 1.5 grains per gallon of raw water and is mixed by passing over submerged weirs and under weirs projected from the top of the box, on its way to the sedimentation basin. In the mixing box, which is 30 feet 6 inches long by 6 feet 4 inches wide and 5 feet deep, the water is aerated by means of compressed air, from pipes set at intervals among the weirs.

In the 300,000-gallon sedimentation basin the water rests approximately three hours, after which it is drawn off to the filter beds, of which there are four, each 17 feet square, interior measurement. On the bottom of each is a bed of sand, 30 inches deep, resting on a stratum of sandstone gravel, 1 foot thick. One hundred and twenty-eight 2-inch pipes, arranged in parallel on the floor and extending the length of the tank, receive the clarified water through perforations and transmit it to a common collector pipe, from which it is passed, through a controller, to the clear water reservoir. The controller consists of a float, from which is suspended a plunger. For any designated head of water, to the level of which the float is adjusted, the float moves the plunger in a vertical plane, opening or closing ports through which water comes from the filters to the clear water reservoir. The capacity of the clear water tank is 200,000 gallons.

Water from this reservoir is forced by means of two electrically driven pumps, each of 1,400 gallons per minute capacity, into the 400,000-gallon standpipe at Gatun, from which it is distributed by gravity. The piping is arranged so that filtered water, exclusively, is used for domestic purposes and raw water from the reservoir is furnished for all plant and equipment use. The filtered water is supplied to approximately 10,000 people, in the villages of Gatun, New Gatun and Spillway. About 2,500,000 gallons may be filtered daily.

The building for the plant was constructed wholly of reinforced concrete, including the roof, which is a slab 4 inches thick and weighing about 50 pounds to the square foot. It is three stories high in the central part, with wings of one story. On the upper floor are storage rooms for resolvents; the middle is the operating floor, from which all machinery can be easily controlled; and on the ground floor are the filter beds, with the regulating devices. A bacteriological laboratory was constructed adjacent to the filter house, at a cost of $2,000. The filtration plant proper cost $38,000. It was designed and constructed by the Atlantic Division, the machinery, with the exception of rate-controllers and loss-of-head gages, having been fabricated in the States according to specifications and details furnished by the Division office.

December, 1911, Rainfall.

The rainfall during the past month was the lightest December rainfall of record at all stations in the Canal Zone except Ancon, Gamboa, and Colon, and at each of these stations it was the lightest with one exception.

The following table shows the rainfall for last month compared with the lightest December rainfall previously reported at the stations on the Isthmus having records covering a period of 10 years or longer:

STATION.	Rainfall, December, 1911.	Previous Lowest December Total.	Length of Record.
	Inches.	*Ins. Year.*	*(Years)*
Ancon..........	1.99	.98..1879	*15
Balboa..........	1.36	2.80..1902	13
Culebra..........	.31	.35..1900	21
Gamboa..........	.97	.79..1900	29
Alhajuela..........	.39	1.14..1903	13
Bohio..........	1.34	2.88..1907	17
Colon..........	2.63	.94..1873	41

*Records have been kept intermittently at this station since 1879.

WEATHER CONDITIONS, CANAL ZONE, YEAR 1911.

The weather for the year 1911 as a whole was characterized by a general deficiency in rainfall, relative humidity, cloudiness and atmospheric pressure and an excess in temperature and wind movement.

The total rainfall during the year was below normal at all stations, being the lightest of record at Gamboa, Bohio, and a number of stations for which only a few years' records are available. The deficiencies ranged from 10 per cent at Balboa to 41 per cent at Bohio. The average fall over the Pacific Section was 67.21 inches and over the Central and Atlantic Sections 79.10 and 116.45 inches, respectively. The average number of rainy days was 172 in the Pacific Section, 214 in the Central and 265 in the Atlantic. Of the stations in the Zone, Balboa reported the least number of rainy days, 158, and Monte Lirio the greatest number, 304.

Average temperatures for the year were generally above normal. July was the warmest month at Ancon and Culebra and December at Colon.

The mean annual atmospheric pressure was the lowest that has been recorded in the Canal Zone during the past six years. March was the month of highest mean pressure and December the month of lowest pressure.

The weather conditions prevailing during the year were very favorable for excessive evaporation from water surfaces, the total amount recorded being the greatest of record at each station.

The subjoined table gives the distinctive climatological data for the year 1911:

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean	Maximum.	Date.	Minimum.	Date.		Total inches.	Annual average.	Days with .01 or more.	Aver. hourly movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date
Colon.	29.853	79.6	90	Sept. 12	71	Jan. 16	85	112.75	129.59	253	10.1	N.	34	N.E.	Dec. 29
Culebra	29.841	79.2	92	Apr. 29	65	Mar. 27	89	74.84	90.14	189	7.4	N.W.	38	N.E.	Aug.18
Ancon	29.832	80.3	95	Oct. 16	65	Mar. 11	87	64.10	71.23	170	7.2	N.W.	38	S.E.	Oct. 3

NAMES OF CANAL FORTS.

Reservations to be Named in Honor of Grant, Amador, Sherman, Randolph, and De Lesseps.

The forts of the Panama Canal, and the batteries comprising them, will be named in accordance with the following schedule. The military reservations at the Pacific terminus will be named Fort Grant and Fort Amador, the first in honor of Gen. Ulysses S. Grant, U. S. A., President of the United States from 1869 to 1877, who died on July 23, 1885, and the second in honor of Dr. Manuel Amador Guerrero, first President of the Republic of Panama, who died on May 2, 1909. The reservations at the Atlantic terminus will be named Fort Sherman, Fort Randolph, and Fort DeLesseps, in honor of Gen. William T. Sherman, U. S. A., who died February 14, 1891, Maj. Gen. Wallace F. Randolph, U. S. A., who died September 9, 1910, and Count Ferdinand DeLesseps, promoter of the Panama Canal, who died December 7, 1894.

FORT GRANT MILITARY RESERVATION.

Battery Newton, in honor of Maj. Gen. John Newton, U. S. Volunteers (Brigadier General, Chief of Engineers, U. S. A.), who died May 1, 1895.

Battery Merritt, in honor of Maj. Gen. Wesley Merritt, U. S. A., who died December 3, 1910.

Battery Warren, in honor of Maj. Gen. Gouverneur K. Warren, U. S. Vols. (Lieutenant Colonel, Corps of Engineers, U. S. A.), who died August 8, 1882.

Battery Buell, in honor of Maj. Gen. Don Carlos Buell, U. S. Vols. (Colonel, Assistant Adjutant General, U. S. A.), who died November 19, 1898.

Battery Burnside, in honor of Maj. Gen. Ambrose E. Burnside, U. S. Vols. (First Lieutenant, Third U. S. Artillery), who died September 13, 1881.

Battery Parke, in honor of Maj. Gen. John G. Parke, U. S. Vols. (Colonel, Corps of Engineers, U. S. A.), who died December 16, 1900.

FORT AMADOR MILITARY RESERVATION.

Battery Smith, in honor of Maj. Gen. Charles F. Smith, U. S. Vols. (Colonel, Third U. S. Infantry), who died April 25, 1862.

FORT SHERMAN MILITARY RESERVATION.

Battery Howard, in honor of Maj. Gen. Oliver O. Howard, U. S. A., who died October 26, 1909.

Battery Stanley, in honor of Maj. Gen. David S. Stanley, U. S. Vols. (Brigadier General, U. S. A.), who died March 13, 1902.

Battery Mower, in honor of Maj. Gen. Joseph A. Mower, U. S. Vols. (Colonel, Twenty-fifth Infantry), who died January 6, 1870.

Battery Kilpatrick, in honor of Maj. Gen. Judson Kilpatrick, U. S. Vols. (Captain, First Artillery), who died December 2, 1881.

FORT RANDOLPH MILITARY RESERVATION.

Battery Tidball, in honor of Brig. Gen. John C. Tidball, U. S. A., who died May 15, 1906.

Battery Webb, in honor of Brevet Maj. Gen. Alexander S. Webb, U. S. A. (Lieutenant Colonel, 44th U. S. Infantry), who died February 12, 1911.

Battery Weed, in honor of Brig. Gen. Stephen H. Weed, U. S. Volunteers (Captain, 5th U. S. Artillery), who was killed in action, July 2, 1863, at Gettysburg, Pa.

FORT DE LESSEPS MILITARY RESERVATION.

Battery Morgan, in honor of Brig. Gen. Charles H. Morgan, U. S. Volunteers (Major, 4th Artillery), who died December 20, 1875.

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CANAL  RECORD

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No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Closing of Spillway at Gatun.

When the work of laying the ogee for the spillway dam at Gatun was resumed in January, all but four of the openings between the construction piers, which then formed the only obstructions across the spillway channel, were closed with heavy timber gates. In front of those closed places the concrete has been placed for the greater part of the toe and ogee, and the four other apertures have since been closed to allow the construction of the final, connecting section of ogee. No water is now flowing through the spillway and Gatun Lake is slowly rising. Arrangements have been made, however, by means of under sluices at elevation + 10 feet, to allow a discharge if it should be desired to keep the water from rising above any specified level. Since the abandonment of the old main line of the Panama railroad and the villages on it between Gatun and Gorgona, no construction work in the Gatun Lake area would be interfered with unless the water should rise to a height of 30 feet above sealevel. The surface of Gatun Lake was at elevation 16.2 feet on Saturday, March 2, and the height of the Chagres River at Bohio was 16.2 feet. Under the prevailing dry season flow, the lake is rising at the rate of .1 foot a day, with a differential of decrease due to extensions of the area affected as the lake spreads.

Foundation for Emergency Dam.

Concrete is being placed for the first of three piers which are to be the foundation for the emergency dam cantilever for the east chamber of Pedro Miguel Lock. Two of the piers, designated main piers, will be 40 by 24 feet in section and the third will be 40 by 11 feet. The depth of each will be approximately 12 feet, though subject to variation on account of the manner of construction, as it will rest directly on the backfill of earth and rock, without the support of piles; when the concrete has been laid to a level a few inches below the top of the side wall of the lock, several months will be allowed for the mass to settle. Then the finishing portions will be placed to make the top of the pier even with the side wall.

One of the main piers will be directly next the side wall, thin sheeting being interposed during the laying of concrete to prevent adhesion and interference with free settling. It will be on a line with the emergency dam sill at the bottom of the chamber and will support the axis on which the cantilever is to be swung. The other piers will be set in excavations in the backfill in the rear of the first, with their inner faces about 125 feet from the face of the side wall. They will be placed parallel, with their adjacent sides 8 feet apart, and will be connected with the side wall by a quadrant of track, over which one end of the cantilever will swing when the other is projected over the chamber. A description of corresponding preparation at Gatun Locks was published in THE CANAL RECORD of December 27, 1911.

The concrete for the piers will be heavily reinforced. At the bottom of the pier which is now under construction seven 70-pound rails have been laid transversely and over them are twelve rows of rails, lengthwise, on approximately 2-foot centers.

Power Riveters for Shops.

Two power riveters have been added to the equipment of the Mechanical Division. At present they are in use in the old shop at Cristobal where the cylinders for the caissons, on which the Panama railroad docks at Cristobal are being built, are being assembled. Later they will be erected in the permanent shop at Balboa. They have 75-inch jaws, and this enables them to do all the riveting on two cylinders, each five feet long, on the center band, and the end band, thus completing a cylinder 10 feet 6 inches over all. These long sections must be joined by hand riveters. Four times as many rivets can be driven in a day by the use of these machines as was possible under the hand process.

Piles Among Buried Cables.

In the construction of a portion of the emergency dam foundation on the backfill west of the upper lock at Gatun, it was planned to drive a number of piles to a depth of about 90 feet, within a square section, fifteen feet on the side, and then remove the earth within this section to the depth of 24 feet below the surface to allow the placing of concrete in the excavation. Eight buried electric cables, running to and under Gatun Locks, cross the section. Inasmuch as they would be in danger of injury by the piles, it was decided to do the excavation first and drive the piles when the cables had been exposed to view and could be avoided with certainty. None of them is lower then 24 feet below the surface. Each pile will be a 10-inch wrought iron pipe, protected at the ends while being driven down to rock and then filled with concrete, as in the construction of caissons.

The eight cables for which this care is necessary were laid in August and October, 1910, when the backfilling had hardly begun, and the subsequent settling of material has twisted them out of their former positions. They were meant for temporary use in construction work. One, of 600-volts tension, runs to the trolley wire which supplies current for moving the cableway tail towers along the east backfill; another, of 6,600 volts, transmits current to the substation at Cristobal. Of the others, which have 2,300 volts, one leads to the Gatun lighting system, two to the Agua Clara pumping plant, one to the shops of the Mechanical and First Divisions, east of the lower lock chamber, and two to the wires for the temporary lighting of the locks.

Culebra Cut Excavation—Steamshovel Records.

Excavation in Culebra Cut during the month of February amounted to 1,319,569, leaving to be excavated 13,175,577 cubic yards. Excavation in the Empire district amounted to 459,665 cubic yards, Culebra, to 827,560, and Pedro Miguel, 62,344. Excavation in February, 1911, in Culebra Cut amounted to 1,403,602 cubic yards. During the same month of this year 15 of the 42 steamshovels at work in the cut were excavating part of the time below elevation 40, and excavation below this level is not counted, because this is the bottom of the Canal.

The highest daily record ever made in the Cut was that of February 28, when 42 steamshovels excavated 65,797 cubic yards.

On March 1, steamshovel No. 124, working in the Culebra Construction District, Central Division, loaded 283 ten-yard Western Dump cars in a working day of eight hours, a total of 2,830 yards of earth excavated during that period. During this time, the shovel was actually at work six hours and 55 minutes, was waiting for cars 50 minutes and cleaning dipper 15 minutes. It is a 70-ton Bucyrus shovel and has a dipper of three yards capacity. This is the greatest amount of material excavated by a 70-ton shovel in one day in the Canal proper since the commencement of work.

Progress in Erection of Lock Gates.

A curved track, ending perpendicularly to the lock walls at the site of the recesses for the upper guard gates at Miraflores, has been laid on the east backfill of the upper lock to provide accommodation for the McClintic-Marshall Company in storing material and erecting gates. The first shipment of material for the Miraflores gates has been made but the work of erection will not begin until after the completion of erection at Pedro Miguel Lock. The two erection bridges now in use at Pedro Miguel will then be moved to Miraflores and may be supplemented by a third bridge in the lower chamber, if desirable. The work at Miraflores will be the last undertaken on the Canal by the company and it will endeavor to concentrate a large force and equipment

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LOCK-BUILDING EQUIPMENT.

Forms for Concrete, and Porto Bello Crusher Plant Machinery for Sale.

Concrete work at Gatun Locks is so near completion that the steel back, side and culvert forms, which have been used in the construction of the walls of the locks proper, have been offered for sale; and the rock-crushing plant at Porto Bello, which has supplied the broken stone for the concrete, was closed down on April 30 and the equipment is offered for sale. The heavy masonry for the walls of the chambers has been completed, and the remaining concrete, 7 per cent of the total amount required for the locks, will be laid in finishing the chamber walls and in the construction of the approach and wing walls at each end of the locks. At the upper end the wing walls have been completed, except for smoothing the surfaces and grouting in equipment requisite for handling vessels in the forebays; and 12,000 of the 35,000 cubic yards of concrete in the cellular portion of the approach wall are yet to be placed. The solid part of this wall is practically completed. The greater portion of the remaining concrete construction work is to be done at the lower end of the locks, where none of the 130,000 cubic yards for the approach and wing walls has been laid. The sites of these walls are now under water and excavation for the foundations is being made by pipeline suction dredge.

The steel forms, bids for the purchase of which are to be opened in the Washington office of the Isthmian Canal Conmissiom on May 8, have been in use since the first concrete was laid at Gatun, on August 24, 1909, for the upper lock. A description of them and of the mode of erecting and aligning them was published in THE CANAL RECORD of September 1, 1909. They consist of 72 center-wall side forms, which are girders, 6 feet wide by 36 feet long and 6 inches deep, 3 center-wall back forms, 13 vertical section back forms, 13 center wall horizontal section back forms, 79 center-wall back-form angles, 205 side-wall side forms, 6 side-wall back forms, 17 side-wall vertical section back forms, 69 side-wall back-form angles, 40 collapsible culvert forms, 8 feet in horizontal diameter and 6 feet 6 inches in vertical diameter, and 23 collapsible tunnel culvert forms, 18 feet in diameter.

Throughout the erection of the three twin locks these forms have been used in the construction of the center and side walls; of the culverts extending through the length of the walls, with the exception of the portions at the dips between lock levels, for which wooden curved forms were constructed. Their use has been satisfactory.

For instance, in the construction of a wall, the steel face plates, or forms for a section of wall 36 feet long and 78 feet high could be moved on the towers designed to support them and be aligned for the placing of the concrete, to the full height of the wall, within a working day. And since there was no necessity, as in the use of forms made of portable wooden sections, for waiting until the concrete placed within the forms hardened before erecting those for the next section of wall above, the concrete could be placed within the complete steel forms as fast as it could be supplied by the mixing and handling plants. In practice, a 36-foot length of center wall was ordinarily built in 8 days, rising at the rate of about 10 feet a day.

The tower used to support the forms consists of a steel framework with a vertical side upon which the flat metal plates were aligned to form a continous face to the height required, and a system of struts in the rear, reinforcing the front part and providing against the lateral stress set up by the pressure of the concrete. A cross-section of a tower is a right triangle, with the right angle at the base of the wall for which the forms were placed. Moving the tower to successive locations was done by means of railway trucks at its base. Tracks were laid along the lock floor as required: and when it was desired to transfer a tower from one lock level to another trestles inclined on a grade of 10 per cent were used. Each of the trestles was about 290 feet long and built in sections 72 feet in length. After its first erection a trestle was preserved and if required at another place it was moved in sections by means of the cableways above the locks. The twelve towers are not offered for sale, but three have been dismantled and all of them will be put in storage at Mount Hope.

PORTO BELLO PLANT.

The cessation of rock-crushing at Porto Bello is due to the fact that there is now in the storage piles at the permanent and spillway mixing plants at Gatun sufficient rock for the concrete required for the completion of the work at the Atlantic end of Gatun Lake. The locks will require about 143,000 cubic yards more and the spillway about 28,000, or a total of about 171,000 cubic yards. Approximately eighty per cent of the remaining concrete is to be made with 24 cubic feet of rock in each cubic yard of concrete, which has been the standard proportion for heavy masonry at Gatun; and the other 20 per cent, which is to be reinforced concrete, will be mixed with cement, sand and rock in the proportion of 1:2:4. In the first case rock forms eight-ninths of the concrete; in the reinforced concrete it is four-sevenths of the whole. The total amount of rock in storage at Gatun is now about 170,000 cubic yards, enough to supply the estimated requirements and leave several thousands yards for contigencies.

In round numbers, 2,000,000 cubic yards of rock have been crushed by the plant at Porto Bello since it began operations in the latter part of 1907. It has supplied rock for use, in addition to its principal consumption at Gatun, in the concrete construction for the filtration plant at Agua Clara reservoir, for the sewers, gutters and curbs in Colon, for macadam roads, including the highway from Gatun to Colon, and for general use in the work of the Atlantic Division. The first load of stone from it was unloaded at Gatun in May, 1909.

The closing of the crushing plant will not be followed by the discontinuance of work in the quarries from which it was supplied. Operations in them will continue, with a slight reduction of force, in order to furnish large rocks for the fill at the Toro Point breakwater. It is calculated to haul a maxium of four 400-cubic yard barges of heavy rock to the breakwater each day. Nine or ten barges will be used in this service, and another will be used for hauling coal to Porto Bello from Cristobal. At the beginning of 1912 the Atlantic Division had 18 barges in service; three of them are being towed around South America, for use in the Pacific entrance, and two have been transferred to the Division of Fortifications. The two or three of the remainder, which will not be in use in connection with the Porto Bello operations, will be used in varied service. The present railway equipment in the quarries, built on a 42-inch gage, is to be supplanted by 5-foot, or Isthmian standard, gage equipment in order better to handle the heavy rocks. The new rolling stock will consist of 32 Lidgerwood cars, released by the Central Division, seven 400-class Rogers locomotives, and a dump car for general utility. As a result of this change the 42-inch gage rolling stock, including ten 40-ton Porter locomotives, has been reported available for sale.

The rolling stock is not to be sold, however, in connection with the crusher plant. Bids on the latter were to have been opened at the Washington office of the Commission on May 21, but as the original advertisement did not include the spare parts a supplementary circular is being prepared and new bids will be invited. The principal parts of the equipment for the plant, a description of which was published in THE CANAL RECORD of September 2, 1908, are two No. 9 and six No. 6 McCully rock crushers, and one No. 21 Gates crusher; one rock-conveying system, complete, with sprockets, gearing, T-rails, framing and so forth, for a pivotal conveyor of total length of approximately 394 lineal feet, with pivotal buckets of ½-inch steel plates, 36 inches wide, 21 inches long and 11 inches deep, inside dimensions, carried by chain bars on 6-inch rollers set 24 inches from center to center; also, two cross conveyors, with approximately 122 feet between centers of end sprockets, with corresponding buckets, chain bars and rollers; two Sterling water-tube boilers of 185 horsepower; one Worthington surface condenser, with 2,255 square feet of tube surface, and air and circulating pumps; one Hamilton-Corliss cross-compound condensing engine, with indicated horsepower of 350 at ⅛ cut-off, 420 at ¼ cut-off; one tandem compound Ball engine, of 250 indicated horsepower at normal speed of 160 to 170 revolutions per minute; and one tandem compound Ball engine of 400 indicated horsepower at 150 revolutions per minute.

Extension of Steamship Service to Colombia.

Commencing April 24, and until further notice, the steamships *Santa Marta*, *Metapan*, *Almirante* and *Zacapa*, in the United Fruit Company's New York–Jamaica–Panama–Colombia Service, will make Cartagena and Puerto Colombia ports of call. Vessels sail from Colon on Thursday at 8 p. m.; arrive at Cartagena on Saturday at 6 a. m. and leave at 5 p. m.; arrive at Puerto Colombia on Sunday at 6 a. m. and leave at 5 p. m.; arrive at Santa Marta at 6 a. m., Monday, and leave at 6 p. m., Tuesday; call at Cartgena in the forenoon of Wednesday; arrive at Colon on Thursday at 9 a. m. and leave at 11 a. m. for New York, by way of Kingston.

Public Health Lectures.

On Thursday evening, April 25, a lecture on the fly as a carrier of disease was given in the conversorium, Colon, the second in the series of free health lectures for the people. There was an attendance of about 200, this being one of the largest audiences that has attended any of the lectures. New slides were exhibited and the feature part of the program was an informal talk on Guatemala, illustrated with lantern slides.

The next lecture will be on oral hygiene on Thursday evening, May 23. The lecture will be in English.

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SHORTAGE OF WATER SUPPLY.

Emergency Measures Necessary, Because of Long Dry Season.

The past dry season, with the minimum recorded rainfall for an equivalent period, has subjected the water-supplying facilities of the Canal Zone to unprecedented strain. Emergency measures have been necessary to maintain the system for Cristobal and Colon, and that for the inland villages of Gorgona, Matachin, Bas Obispo, Las Cascadas, and part of Empire. For the Rio-Grande-Panama system the supply from the Rio Grande reservoir has been supplemented by pumping from Cocoli Lake. The installation of an auxiliary system of pumps and filters for this purpose was completed during the latter part of 1909. On the morning of May 12, Rio Grande reservoir and Cocoli Lake together contained enough water to supply the towns and the construction work on the Pacific slope of the continental divide for at least forty days. During the afternoon and evening of that day such heavy rainfall occurred over the watersheds of these reservoirs that the dry season for the southern portion of the Canal Zone was effectually broken and no concern need be felt for the adequacy of the water supply.

In the areas supplied by the Camacho and Carabali reservoirs, however, the situation has been more difficult. Since January 24, the Camacho system, extending from West Culebra to Bas Obispo, inclusive, and supplying a part of Culebra Cut, has used, in part, water from the Chagres River, forced up by two 3-stage, 8 inch centrifugal pumps, mounted on the south channel pier of the railroad bridge at Gamboa. Under full operation these pumps can supply 3,000,000 gallons daily. This quantity is ample for the drains on the Camacho system. Due to the supply of the Carabali reservoir being exhausted the towns of Gorgona and Matachin have been supplied with mains leading from the pumps at Gamboa bridge. The installation of 3,000 feet of 6-inch pipe for this purpose was completed on March 13. In addition to this supply, two pumps were installed on the Chagres for supplying water for industrial uses in the Gorgona shops. One additional condenser was installed to furnish the native town with condensed water.

The pumping plants at Tabernilla and Frijoles which supplied the villages of San Pablo, Barbacoas, Tabernilla and Frijoles have been removed, due to construction work being complete to Gorgona, and the materials stored at the water service storehouse, Empire.

The flow of water from the Brazos Brook reservoir was cut off from Cristobal on May 9, when the surface of the water came within 2 feet 9 inches of the top of the lowest outlet at the reservoir. Between 35,000,000 and 40,000,000 gallons remain available for Colon consumption only. For some time the water has been so low that it would not flow by gravity to Mount Hope, but had to be pumped. When the reservoir is full to its capacity of 650,000,000 gallons, the surface of the water is 20 feet above the outlets. For three months past, water has been pumped into the mains from the East Diversion, at Mindi. Until two weeks ago it was filtered, when the filtration was omitted, in order to save the wash water, which amounts to about 300,000 gallons a day.

Cristobal is supplied with water hauled from Gatun in barges and pumped into the mains through connections made at Dock 13. The Panama railroad tug *Phoenix* is tied up there and pumps the water from the holds of the barges brought alongside. The barges are filled with water from the Agua Clara plant, supplying Gatun, New Gatun and Spillway, which has the largest reserve on the Isthmus, and towed through the French canal to Mindi, thence along the American Canal to Dock 13. Five barges, formerly in the cement service, and one 1,000-ton rock barge, are used for this purpose, supplying daily about 600,000 gallons of water. This arrangement was put into effect on May 10, and has been fairly satisfactory. There are interruptions of the pressure when the barges are changed, but this is partly obviated by increasing the pressure just before effecting a change, and by the head of water afforded by the 75,000-gallon tank in the Panama railroad yards at Cristobal. Switching engines only are supplied from this tank, all the main line locomotives taking water at Gatun.

For four months, water has been hauled in clapets to Toro Point from Gatun. One clapet is in use at a time, making a daily trip with about 120,000 gallons. Porto Bello is being supplied with one 65,000-gallon barge a day from the same source. Agua Clara reservoir has in it now about 190,000,000 gallons, sufficient to meet the present unusual demands on it for a period of 45 days without rain.

Inasmuch as the rainy season has opened, the strain of the situation has passed, except between West Culebra and Gorgona, and in Colon and Cristobal. It is not likely ever to be as bad again, not only because the past dry season has been phenomenal, but also, because the population of the Zone villages and the extent of the construction work will decrease from this time to the completion of the Canal.

Pilots, Mates, Masters, Engineers, Chauffeurs.

Examinations for pilots, mates, masters, and engineers; and for chauffeurs, will be held by the Board of Inspectors at the Administration building, Ancon, on May 22. All applicants for licenses as chauffeur must secure from the Department of Civil Administration, Executive Office, Ancon, forms of application, and information respecting the filling out of the same, not later than the day previous to the examination. All applicants for examination must be present at the Administration building at 8 a.m., on May 22, with papers in proper form. In addition, applicants for chauffeurs' licenses must demonstrate their ability properly to operate an automobile, and must have the automobile with them.

Knights Templar.

All Knights Templar in good standing are invited to be present at the institution of Canal Zone Commandery, U. D. Knights Templar, Saturday, May 18, at 8.15 p. m., at Las Cascadas.

Notice to Mariners.

I am advised that an uncharted pinnacle rock has been found lying in the channel between Taboga and Tortola Islands. The rock has a least depth of 18 feet at mean lower low water, or 16 feet at the lowest tides observed. It is about 70 yards in diameter, and is on the summit of a small bank with 32 to 35 feet at M.L.L.W., surrounded by greater depths (45 to 50 feet).

Sextant angles locating rock—San José Rock to C. & G. S. signal on Tortola Island 29: 31. Signal on Tortola Island to lighthouse, Melones Island 109: 57.

Ships should avoid this locality.

J. St. C. Hunt, *Port Captain.*

Pacific Division Sand Service.

A report of sand cars loaded and shipped from Balboa during the month of April, follows:

Destination.	Number Cars.	Cubic Yards.
Pacific Division	2,941	48,547
Atlantic Division	10	230
Central Division	18	270
Quartermaster's Department	4	98
Lighthouse Service	2	46
Fortifications	73	1,679
Panama Railroad Company	2	50
Miscellaneous	13	325
Total	3,063	51,245

Obituary.

Charles Higley, an employe of the Atlantic Division, living at Las Cascadas, died at Ancon Hospital, on May 4. He was 43 years of age, married, and has been on the Isthmus three and one-half years, coming here from Iowa. He is survived by his wife, now living at Las Cascadas.

Suicide.

George C. Gill, a member of Company D of the Tenth Infantry, committed suicide with carbolic acid near Camp Otis, on May 5. He was 25 years of age, single, and had been on the Isthmus seven months, coming here from Greenville, Texas.

BASEBALL.

The Culebra baseball team which has been playing independently during the past season, defeated the Commissary-Subsistence team, winner of the pennant in the Panama Canal League for the season of 1911-12, in a six-inning game at Empire park on Sunday afternoon, May 12. Summary:

C.-S.	AB.	H.	PO.	A.	E.
Buch'an,cf.	2	0	0	0	0
Curtis,3b	3	1	1	0	0
Smith,ss	3	1	2	1	0
Mosher,rf.	2	1	0	1	0
Pardue,lf.	2	0	0	1	0
Weiss,1b	2	0	6	0	2
Herring,2b.	2	0	0	1	0
Sterner,c	1	1	6	1	0
Beard,rf	1	0	0	0	0
Davis,p	1	0	0	3	0
Totals	19	4	15	8	2

Culebra	AB.	H.	PO.	A.	E.
VanZ'dt,lf	3	1	0	0	0
Do'h'ty,2b	3	1	1	1	1
Hayes,3b.	2	1	0	1	0
Clem'ts,cf	3	1	2	0	0
Herring,rf	2	1	0	0	0
Hepler,1b.	1	0	6	0	1
Cushing,c.	2	1	5	1	0
Fl'sh'n,s.	2	1	1	1	1
Barnes,p.	2	0	0	2	0
	20	7	15	6	3

Com-Sub	1	0	0	0	2—3
Culebra	4	0	0	0	0—4

Game called in the sixth inning, on account of rain, with one man out.

Earned runs—Com-Sub., 1; Culebra, 4. Two base hits—Van Zandt, Hayes, Fleishman. Home runs—Clements. Stolen bases—Dougherty, Hayes, C. O. Herring, Fleishman, Curtis 2. Sacrifice hits—Pardue, Weiss. Base on balls—off Davis, 1; off Barnes, 3. Left on bases—Com.-Sub., 7; Culebra, 3. Wild pitches—Davis, 1. First base on errors—Com.-Sub, 2; Culebra 1. Hit by pitcher—By Davis, Helper; by Barnes, Herring and Sterner. Hits off Davis—3 in 3 innings, off Mosher 1 in 2 innings. Time of game—1 hour, 5 minutes. Umpire—Mr. Markley. Scorer—Garrett.

The following ships arrived or departed from the port of Balboa during the week ending May 11:

Arrivals—May 5, *Sonoma*, from north; May 5, *Chile*, from Guayaquil; May 5, *Rupanco*, from Buenaventura, May 7, *Mantaro*, from Callao; May 8, *Huasco*, from Valparaiso; May 9, *Leelanaw*, from San Francisco.

Departures—May 5, *City of Sidney*, to San Francisco; May 6, *Guatemala*, to Callao; May 8, *Aztec*, to San Francisco; May 8, *Quito*, to Guayaquil; May 8, *Sonoma*, to north; May 10, *Acapulco*, to San Francisco.

Lost—Watch fob and locket, on Sunday, May 12, between Panama railroad station and Ancon Hospital grounds. Finder will please communicate with A. W. Borgen, Box 358, Gorgona.

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OFFICIAL CIRCULARS.

Employes Required to Remain Away from Panama and Colon During Elections.

CULEBRA, C. Z., June 27, 1912.

HEADS OF DEPARTMENTS AND DIVISIONS:

Please require all employes to remain away from Panama and Colon during the progress of the municipal elections on Sunday, June 30, and of the National elections on Sunday, July 14.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Panama Citizens Excused from Duty to Vote.

CULEBRA, C. Z., June 26, 1912.

HEADS OF DEPARTMENTS AND DIVISIONS:

Any citizen of the Republic of Panama in your employ who might otherwise be called upon to work on Sunday, June 30, or Sunday, July 14, may be excused from duty on those days for a sufficient length of time to enable him to cast his vote in the forthcoming elections.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Traveling Expenses.

CULEBRA, C. Z., May 14, 1912.

CIRCULAR No. 48. (Superseding CIRCULAR No. 20):

1. The following regulations concerning traveling expenses of officers and employes of the Commission are published for the information and guidance of all concerned. They do not refer to travel upon the Isthmus of Panama by officers and employes stationed upon the Isthmus, unless such travel is at the beginning, or at the termination of a journey extending beyond the Isthmus.

2. Before any expense is incurred in traveling upon business of the Commission, an order will be issued by competent authority. Travel orders may be either oral or written and shall state, when written, as specifically as circumstances will permit, the travel to be performed. When an officer or employe is at a distance from the official authorized to order travel and the necessity for immediate travel will not permit of the delay necessary to procure authority, or when other conditions render it impracticable to obtain authority without serious injury to the public interests, he may proceed without such order, reporting at once in writing to the head of his department the necessity for the travel without orders. When practicable all transportation and Pullman accommodations will be procured on regular official Isthmian Canal Commission transportation requests.

3. All travel must be by the shortest practicable routes, unless otherwise directed by the travel order, and must be without unnecessary delays. Proper and legitimate travel expenses include such as are usual and essential to the comfort of travelers, such as an employe would incur if paying his own expenses, and may embrace any of the following items:

(*a*) The usual one way, or where time limits are found to be ample, round trip fares on railroads, steamships, or other public conveyances and hire of special transportation where there are no regular means of conveyance. The use of commutation tickets or the acceptance of rebates in any form on fares is prohibited. Mileage books may be used when authorized by the Chairman. Charges for meals will not be allowed if the transportation charge includes meals. "Excess baggage" charges must be explained, and, to be allowed, must be for official papers or public property carried with the officer or employe. Travel on limited trains requiring excess fares will not be allowed, except when absolutely necessary, and the account shall contain a certificate setting forth this necessity.

(*b*) Street car, omnibus, or transfer coach fare between stations, docks, and hotels, and, when there are no such conveyances available, moderate or necessary hack or cab hire, not exceeding the usual and legal rates, and transfer of baggage. Street car fare, while on official business during the time spent in a city, will be allowed, but the necessity for employing a more expensive means of conveyance must be explained in the account for consideration of the Commission.

(*c*) Sleeping car fares for one double berth, parlor car seat, and fare for usual stateroom accommodations on vessels; also, fees to porters on sleeping and parlor cars, not exceeding 25 cents in one day, and reasonable fees to porters for handling baggage at stations, etc., when necessary. Where money is expended for parlor car seat, or berth, statement should be made as to which accommodation was secured. When Pullman accommodations are procured, report should state whether upper berth, lower berth, or parlor car seat was furnished, and Pullman receipt must be filed with expense report.

(*d*) Charges for meals and lodging not exceeding $5 for any 24 hours, whether meals are taken en route, or at hotels and restaurants, and reasonable fees to waiters, not exceeding 40 cents a day. Hotel bills should be so itemized as to show the number of days and the rate per day. When travel is by ocean steamer, reasonable fees to stewards, in the aggregate not exceeding an average of 75 cents for each 24 hours, or fraction thereof, will be allowed.

(*e*) Receipted bills for hotel expenses, showing the dates of entertainment, must be furnished; also, receipts for any expense exceeding $1, except that receipts are not required for transportation by railroad or vessel, for single meals, or for fees to porters, waiters, and stewards. The cost of each meal should be stated.

(*f*) All telegrams sent to the Commission should be marked "Collect of the Isthmian Canal Commission at Goverument rates," as none should be prepaid. If the telegram is not to the Isthmian Canal Commission, but nevertheless on official business, the toll should be prepaid at the rates fixed in the schedule of the Postmaster General. Whenever a telegram is paid for and charged in voucher, a pen or carbon copy of same must be attached to the voucher and the receiving agent of the telegraph company shall indorse receipt of the toll on such copy. Where an official telegram is received "Collect" by an officer or duly authorized employe of this Commission, receipt for payment should be indorsed on such telegram by the agent of the telegraph company, receipted telegram to be used as subvoucher in expense account. Expenses for telegrams relating to leaves of absence, payment of salary and expense vouchers, or any other matter of a personal nature, will not be allowed, and such telegrams must not be sent to the Commission "Collect." In preparing telegrams care should be observed that all unnecessary words, initials, and figures are omitted.

Employes should provide themselves with means of identification to satisfy the telegraph companies that they are officially connected with the Commission to enable them to get messages accepted for transmittal on the terms herein fixed. Official identification cards will be issued to employes whose duties require frequent transmission of telegrams.

4. When reimbursement for traveling expenses is to be made on the Isthmus, accounts will be rendered in duplicate on forms of vouchers approved by the Commission. Such vouchers shall be certified to by the officer or employe who performs the travel, and, with the original order for travel, if written, and all necessary explanatory statements in writing, shall be submitted to the Examiner of Accounts on the Isthmus.

When reimbursement for traveling expenses is to be made in Washington, reports of the official travel performed and the expenses in connection therewith will be submitted to the official directing the travel, who will endorse thereon his verification and such other notations as may be necessary, and forward same to the proper administrative officer at Washington for permanent record in the files of the Commission.

The voucher or report will be so stated as to show clearly and in proper sequence the movements of the traveler and detailed itemization of the expense incurred day by day. Hotel expenses, when extended over several days, should be stated in the voucher or report as of the date on which paid.

5. No officer or employe traveling under orders shall pay for transportation on a railroad, steamer, or other conveyance operated by the Panama Railroad Company, but shall use an order for transportation furnished by the Chairman of the Commission, or by his direction, at Washington, or by the duly authorized official on the Isthmus. An order for transportation shall also be issued, when practicable, for travel by any steamship line between ports on the Isthmus and ports in the United States, or other countries.

6. These regulations shall not apply in any instance where by law or by action of the Commission a per diem allowance for any items of expense is fixed for any officer or employe, but shall be superseded as to the expenses which may be stated to be included in the per diem allowance.

7. The limitations of these regulations as to maximum expenses allowed for any 24 hours for meals and lodging shall not apply to officers whose salaries are in excess of $5,000 per annum. Officers whose salaries range from $3,000 to $5,000, inclusive, annually may be allowed charges for meals and lodging not exceeding $7 per day, when their detail on special duty may warrant, and such fact shall be plainly stated in the travel order.

These regulations shall be effective from and after June 1, 1912.

GEO. W. GOETHALS, *Chairman.*

TELEPHONE DIRECTORY CHANGES.

A new telephone directory has recently been issued by the Panama Railroad Company, corrected to May 15. Since then a number of additions, removals, and changes in numbers, have been made, a list of which is given below. Telephone subscribers are requested to make a note of these changes in their copy of the directory.

ADDITIONS.

EXCHANGE.	Number.	Name.	Location.	Department.	Office, or residence
Colon	48	Dock 4, Checker	Colon	Q. M.	Office
Colon	113	Engineers' Quarters	Cristobal	P. R. R.	Residence
Colon	117-R	Borrow Pit	Mount Hope	P. R. R.	Office
Colon	122	Time Inspector	Cristobal	Ex. Accts.	Office
Colon	136	A. D. McEroy	Colon	P. R. R.	Office
Colon	150-B	McClintic-Marshall Construction Company	Cristobal		Office
Colon	150-R	Bill Clerk	Folks River	P. R. R.	Office
Colon	205-B	District Timekeeper	Dry Dock	At. Div.	Office
Colon	212	Sanitary Inspector	Cristobal	San.	Office
Colon	223	Wholesale Hardware	Cristobal	Comsy.	Office
Mount Hope	29	Cristobal Shop Stores	Cristobal	Q. M.	Office
Toro Point	18	Time Office	Toro Point	Fort.	Office
Toro Point	20	Quarry	Toro Point	Fort.	Office
Gatun	99-B-1	R. S. Houston	Agua Clara	At. Div.	Residence
Gatun	21	Railroad Station	Gatun	P. R. R.	Office
Empire	740-1	Block Office	Bridge 52	P. R. R.	Office
Empire	741-2	Block Office	Matachin Cabin	P. R. R.	Office
Empire	741-1-1-1	Block Office	Gorgona	P. R. R.	Office
Gorgona	110-1	Police Station	Gamboa	C. A.	Office

REMOVALS.

EXCHANGE.	Number.	Name.	Location.	Department.	Office, or residence
Gatun	97	Lock No. 2	Gatun	At. Div.	Office
Gatun	728-5	Mindi Cut	Mindi	At. Div.	Office
Gatun	728-2-1	Pumping Station	Mindi	At. Div.	Office
Gatun	726-4	Railroad Station	Frijoles	P. R. R.	Office
Colon	49	Ed. Slayback	Cristobal	P. R. R.	Office
Empire	734-4	J. W. Francis	East Balboa	Cent. Div.	Office
Empire	175	J. M. McNeil	Empire	Cent. Div	Office
Empire	73-3	Morrison's Shack	Gold Hill	Cent. Div	Office
Empire	119-B	Shops	Bas Obispo	Cent. Div.	Office
Empire	750-4	Underwood's Car	Gold Hill	P. R. R.	Office
Empire	755-3	Yard Office	Whitehouse	Cent. Div.	Office
Gorgona	32-2	Yard Office	San Pablo	Cent. Div.	Office
Empire	741-3	Yard Office	Tabernilla	Cent. Div.	Office
Empire	161-B-2	D. J. McCauley	Gold Hill	Cent. Div.	Office
Empire	756-1-1	Tower "P"		Cent. Div.	Office

CHANGE IN NUMBER.

EXCHANGE.	Name.	Location.	Old Number.	New Number.	Remarks.
Gatun	Dredge No. 82	Gatun	119	98-2	....
Gatun	C. R. Hughes	Gatun	88-A	87-B	....
Gatun	District Hydrographer	Gatun	81	81-A	....
Gatun	Relay Pump No. 4	Gatun	85-2	85-3	....
Gatun	Relay Pump No. 5	Gatun	85-3	85-2	....
Panama	J. F. Fowler	Ancon	36	34	....
Corozal	Post-office	Miraflores	3-B	3-B-2	....
Panama	Electrical Repair Shop	Ancon	162-B	152	....
Corozal	J. A. Walker	Pedro Miguel	14-A	34-A-1	....
Corozal	Police Station	Miraflores	1-B-1	1-B-3	....
Empire	D. E. Wright	Empire	136-B	133	Residence
Colon	C. B. Austin	Cristobal	167-B	167-R	Office
Colon	A. R. McDaniel	Cristobal	133	133-B	....
Colon	C. C. Snedeker	Cristobal	251-R	249-B	Residence
Colon	W. J. White	Cristobal	20-R	20-B	Office
Empire	Block Office	Las Cascadas	740-1	740-5	....
Empire	Olaf Ekedahl	Culebra	724-3	116-B	Residence
Empire	Olaf Ekedahl	Rio Grande	116-B	724-3	Office
Empire	L. K. Needham	Empire	194	194	Office
Empire	Campbell's Car	Gold Hill	73-2	750-2	....
Empire	G. A. Wicks	Empire	15	8	Office

NOTE—After 5 p. m., daily, and on Sundays and holidays, Mount Hope store, dry dock store, Dock 14, Mount Hope fire station, and Mount Hope cabin are reached through the Colon exchange; Cristobal shop stores through the Gatun exchange.

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NOTES OF PROGRESS.

(Continued.)

20 feet high, approximately four and one-half feet thick, and weighs 42 tons. Some of the material for the gates is lying in the erecting yard near the machine shops at Gatun, but the assembling, which is to be done by the forces of the McClintic-Marshall Company, is being deferred on account of the need of hastening the work on the upper guard gates in Gatun Locks. The flow of water over the ogee is to be controlled by raising and lowering the gates between the piers. The bottoms of the gates will rest on babbitted sills on top of the ogee when closed, and a stoppage to the elevation of slightly less than 89 feet above sealevel will thus be effected. If it is desired to allow water to escape, the gates, or as many as may be required, will be raised by means of chains running to the tops of the piers and over sheaves into the machinery tunnel. A description of the method of operation was published in THE CANAL RECORD of October 25, 1911.

Gatun Dam Spillway.

The concrete work in the Spillway of Gatun Dam is over 90 per cent completed, 202,511 cubic yards, out of a total of 225,000, having been placed at the close of work on July 6. A statement of the amount laid each working day last week, and of the total in place, follows:

DATE.	Concrete Laid.	Hours worked.	No. Mixers.
July 1	104	6.30	1
July 2	104	5.30	1
July 3	3	.10	1
July 4 (Holiday)			
July 5	28	1.15	1
July 6	44	4.45	1
Total	283	18.10	1
Previously reported	202,228		
Grand total	202,511		

Notice to Mariners.

I am advised that the shoal on the east side of the channel, referred to in my notice which appeared in THE CANAL RECORD of December 20, 1911, where the drill barge *Teredo* is at present engaged, has been raised several feet by blasting, and now carries twenty-two (22) feet at mean tide, or only twelve (12) feet at extreme low tide. All vessels should pass this shoal on the west side of the channel. The two lighthouses on head of tangent No. 1 will admit of ships steering a safe course past this shoal.

Obstruction buoy will be placed as soon as possible, after which shipping should pass to the westward of the buoy.

J. ST. C. HUNT, *Port Captain.*

Balboa, C. Z., July 3, 1912.

Relief of Reservoir Shortage.

The amount of rainfall over the Canal Zone was much below normal during the period between the nominal end of the dry season and May 1. This resulted in a shortage of water in all reservoirs, except Agua Clara, which supplies Gatun, New Gatun, and the Spillway, and it was necessary to resort to emergency measures to maintain the supply of water to other villages, as reported in THE CANAL RECORD of May 15. During May and June, the rainfall was only slightly below normal, except over the relatively small portion of the Canal Zone between Pedro Miguel and Empire, an area lying for the most part near the continental divide. In this area, however, lie the watersheds of the Rio Grande and Camacho reservoirs. In consequence, while the hauling of water in barges to Cristobal was discontinued on June 24, the situation for the towns in the Central Division remained the same. Both reservoirs are rising slowly, but supplementing the supply from the Rio Grande with water from Cocoli Lake, and that from the Camacho, with water pumped from the Chagres River at Gamboa, continues far into the nominal rainy season. At the Rio Grande station, the rainfall recorded during the first six months of 1912 was nine inches, or about 35 per cent below normal. At Camacho station, during the same period, the precipitation was 10 inches, or about 40 per cent below normal. Repeated rains during the past few days, however, indicate that the drouth is broken over the area from Pedro Miguel to Empire, as well as over the rest of the Canal Zone.

CONCRETE WORK IN THE LOCKS.

Over 88 per cent of the concrete for the locks is in place, the amount at the close of work on July 6 being 3,804,267½ cubic yards, out of a total of approximately 4,302,563. A total of 15,688 cubic yards of concrete was laid in the locks during the week ending July 6.

GATUN LOCKS.

Over 94 per cent of the concrete for the system of three twin locks at Gatun has been laid, the amount in place at the close of work on July 6 being 1,882,059½ cubic yards, out of a total of 2,000,000. A statement of the amount of concrete placed in the locks each working day of the week ending July 6, and of the total follows: and a similar statement for the work in the Spillway at Gatun Dam is published elsewhere in this issue.

DATE.	CONSTRUCTION PLANT. 2-cubic yard mixers.			AUXILIARY PLANT. 2-cubic yard mixers.			Large stone.	Total.
	Concrete placed.	Hours worked.	No. of mixers	Concrete placed.	Hours worked.	No. of mixers		
	Cu. Yds.			Cu. Yds.			Cu. Yds.	
July 1	208	3.34	2					208
July 2	410	7.04	2					410
July 3	302	5.16	2					302
July 4								(Holiday)
July 5	182	3.06	2					182
July 6	426	8.20	2					426
Total	1,528	27.20	2					1,528
Previously reported								1,880,531½
Grand total								1,882,059½

PEDRO MIGUEL LOCK.

Concrete work in the lock at Pedro Miguel is over 96 per cent completed, 860,241 cubic yards, out of a total of 889,827, bucket measurement, having been placed at the close of work on July 6. The record for each of the working days of last week, follows:

DATE.	AUXILIARY PLANT.						Large stone.	Total.
	2-cubic yard mixers.			½-cubic yard mixers.				
	Concrete placed.	Hours worked.	No. of mixers	Concrete placed.	Hours worked.	No. of mixers		
	Cu. Yds.			Cu. Yds.			Cu. Yds.	
								*136
July 1	176	4.50	1	168	15.50	4		344
July 2	206	5.25	1	291	34.50	5		497
July 3	158	4.00	1	155	12.00	3		313
July 4								(Holiday)
July 5	172	4.50	1	211	30.50	5		383
July 6	142	3.50	1	275	26.50	5		417
Total	854	21.75	1	1,100	119.00	5.4		2,090
Previously reported							4,468	858,151
Grand total							4,468	860,241

*136 cubic yards mixed by hand, omitted from last week.

MIRAFLORES LOCKS.

Over 75 per cent of the concrete for the system of two twin locks at Miraflores was in place July 6, the total amount on that date being 1,061,967 cubic yards, bucket measurement, out of a total of approximately 1,412,736. The record for each of the five working days of last week, follows:

DATE.	CONSTRUCTION PLANT. 2-cubic yard mixers.			AUXILIARY PLANT.							Total.
				2-cubic yard mixers.			½-cubic yard mixers.				
	Concrete placed.	Hours worked.	No. of mixers	Concrete placed.	Hours worked.	No. of mixers	Concrete placed.	Hours worked.	No. of mixers	Large stone.	
	Cu. Yds.			Cu. Yds.			Cu. Yds.			Cu. Yds.	Cu. Yds.
July 1	932	22.75	7	1,192	17.17	3	447	49.00	7		2,571
July 2	742	18.75	7	1,386	20.58	3	361	39.50	6		2,489
July 3	586	17.42	6	1,382	20.67	3	368	33.00	5		2,336
July 4											(Holiday)
July 5	812	35.17	6	1,212	18.00	3	443	41.00	7		2,467
July 6	490	15.34	6	1,330	19.73	3	387	33.50	6		2,207
Total	3,562	109.43	6.2	6,502	96.15	3	2,006	196.00	6.2		12,070
Previously reported										3,693	1,049,897
Grand total										3,693	1,061,967

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COLON WATER SUPPLY.

Plans for New Waterworks and Purification Plant have been Approved.

Plans for a new water works and purification plant at Mount Hope, in connection with the improvement of the Colon water supply, have been approved by the Chairman, with a single exception, that of a tunnel designed to carry water from Gatun Lake. The preliminary work, consisting of clearing the site at Mount Hope, and of ordering the necessary material, is under way, and efforts are being made to the end that the pumping station and clear water basin may be available for use during the next dry season. The work of clearing the site involves the removal of houses Nos. 342 to 352, inclusive, and No. 819, together with a number of small shacks.

The plans, in general, as prepared in the drafting office of the division engineer at Gatun, contemplated the construction of a tunnel through the ridge separating the watershed of Gatun Lake from that of Brazos Brook, for a distance of approximately 600 feet, and at an elevation of 65 feet above sea-level, so that with the lake level at 70 feet, the supply of water would be ample. It was proposed to locate this tunnel at a point three miles east of Quebrancha, a siding on the Panama railroad relocation about two miles out of Gatun. In referring to this feature of the work, the Chairman stated that he regarded it objectionable; first, because of the uncertainty of the material through which the tunnel must pass, and the difficulties that would probably be encountered from slides; and, second, because of the undesirability of cutting this opening through the hills below the general lake level. He requested, however, that further consideration be given to this feature, and that a report be submitted giving alternate estimates of cost of construction and operation based on carrying a 20-inch pipe line over the divide in an open cut; also, whether or not there would be an appreciable difference in cost by raising the tunnel not more than 15 feet above the lake level. A crew of diamond drill runners is engaged in determining the character of the ground in the vicinity of the proposed tunnel, and a report of the findings will be made later. In connection with the construction of the tunnel, the plans called for the laying of a 20-inch main inside of it, so that the water from Gatun Lake could be carried into the Brazos Brook reservoir, and automatically controlled, in such a manner that the level of the reservoir would never fall below 48 feet above sealevel. Other work planned is the laying of a 20-inch main from the Brazos Brook headgate to Mount Hope; the construction of an aeration chamber, mixing box, and head house; sedimentation basin; filter building, including clear water well; and pump station. The filtration plant is to be the modern, rapid, mechanical gravity type, designed for a normal maximum capacity of approximately 6,000,000 gallons a day.

The plan is to first aerate the water in the aeration chamber, and then pass it through the mixing boxes, where an aluminum sulphate solution is to be applied, thence allowing it to flow into the sedimentation basin, where sedimentation for a period of eight hours will take place. From the sedimentation basin the water will pass into the gravity filters, thence discharging directly into a clear water basin, which will form the basement of the filter building. The water from this basin, which is to have a capacity of approximately 500,000 gallons, will then flow into sumps situated beneath the floor of the pumping station, immediately alongside of the filter plant, thence will be pumped by the steam pumps directly into the main which feeds the city of Colon.

It is purposed to install in the pump house the steam pump and boiler equipment in the present pumping station, using it to furnish water for all normal consumption. In addition, there will be installed two 3,000-gallon per minute centrifugal pumps, electrically driven, so arranged that by simply throwing the pumps into operation, by closing a switch, 6,000 gallons of water a minute can be delivered into the mains at a pressure, at the lower end of Colon, of 70 pounds to the square inch, and providing for from 15 to 18 streams of water in case of fire, it being planned to use these pumps only in times of fire. The steam pumps are so arranged as to pump automatically into the main the required amount of water to maintain pressure at all times, except during a fire, of approximately 45 pounds to the square inch, and, in case of the fire pumps being thrown on the line, the steam pumps will automatically close down; and with the throwing off of the main of the electric fire pumps, the steam pumps will automatically start up.

It is planned to construct the clear water basin and the power house, and to install the electrical fire pumps as soon as possible; also, to so arrange the present standpipe and steam pumps at Mount Hope that there will be available approximately 900,000 gallons of water for use, at high pressure, in case of a fire in the quantity of approximately 6,000 gallons a minute. The shortage of water at Colon during the past dry season, when the Brazos Brook reservoir practically went dry, and water had to be carried in barges to Cristobal from Gatun, or pumped from the Mindi River, itself an uncertain source of supply, makes an adequate and permanent store imperative for the next dry season. At the present time over 3,000,000 gallons of water each day is required for Cristobal and Colon, including wash water for the pressure filters. The new plant has been designed with a view of supplying, if necessary, twice this amount. The present pipe line between Brazos Brook and the plant at Mount Hope, with the reservoir at elevation 48 feet, would furnish the maximum amount needed for Colon at present, but future increases would require the laying of an additional pipe line.

The estimate of cost for the new filtration plant, exclusive of land, is about $18,000 per million gallons of filtered water capacity, and on the same basis, the original cost of the Agua Clara plant at Gatun was about $16,300. The difference between the cost per million gallons for Agua Clara, and the proposed plant, is accounted for by twice the length of the sedimentation and the aeration of the water, together with the fact that the foundation of the filter building at Mount Hope will be on piles. It is believed from past experience that thorough aeration of the water will result in an approximate saving of about 15 per cent of aluminum sulphate, or a saving, taking 6,000,000 gallons as a basis, of about $2 a day.

In drawing up the plans for the new plant, estimates were prepared of both the mechanical gravity and pressure type of filter plants. With a pressure plant, it is necessary to force the water through the filter at an approximate net pressure of 10 pounds to the square inch. The additional daily cost in fuel oil alone for this additional work, based on the present operation at Mount Hope, would amount, on 6,000,000 gallons a day, to $4,175 a year, or, based on the average of 3,000,000 gallons of water a day, with a plant having a maximum capacity of 6,000,000 gallons a day, the daily additional cost would be $8.58 a day, or $3,131.70 a year. This amount represents the saving to be effected by the mechanical gravity type, which would be practically eight per cent on the additional investment.

Swimming Pool on Colon Beach Closed Temporarily.

The operations of the municipal engineering department of the Atlantic Division, in cleaning out the north end of the D street sewer, have made it necessary to close temporarily the swimming pool on Colon Beach, near the residence of the General Superintendent of the Panama railroad. It will probably be closed the greater part of a month.

Ancon Crusher.

The following is a statement of rock crushed at Ancon quarry during the week ending July 27:

Date.	Hours worked.	Cubic Yards.
July 22	7.35	2,545
July 23	6.40	2,028
July 24	8.10	2,218
July 25	7.30	3,000
July 26	9.00	3,333
July 27	7.05	2,712
Total	46.00	15,836

Empire Christian League.

The Empire Christian League held a business meeting and social in the I. C. C. chapel, Wednesday evening, July 24, at which a musical and literary program was given. The semiannual election of officers resulted, as follows: President, H. A. A. Smith; vice-president, E. P. Beck; secretary-treasurer, E. H. Ash; chairman of music committee, H. W. Dormann; chairlady of special committee, Mrs. Phil Kelly. The report of the various departments showed the work to be in a healthy condition.

Verdict of Coroner's Jury.

The coroner's jury empaneled in the case of Luther McCullah, private, Company K, Tenth Infantry, Camp Otis, who was found dead at the Mandingo River bridge, near Bas Obispo, on the morning of July 16, has submitted findings to the effect that his death was caused by two gunshot wounds, one through the chest, and the other through the head, at the hand of person or persons unknown.

Sailing of the Ancon.

The departure of the steamship *Ancon* has been set for Tuesday, August 6, from Dock 11, at 3 p. m.

A supply of sanitary drinking cups has been received on the Isthmus and these are again provided free in the coaches of Panama railroad trains. They are placed in small cabinets on the wall at either end of each coach.

WATER FROM GATUN LAKE.

Tunnel to Pass Supply of Water to Colon System—Decomposition in the Lake.

Operations began on November 14 for driving a tunnel through the divide between Gatun Lake and the watershed of Brazos Brook reservoir, to conduct an auxiliary supply of water for Colon and Cristobal. The tunnel, six by six feet in cross section, will be driven with its bottom 75 feet above sealevel, which is four feet below the minimum level of the lake under operating conditions, and the water will be passed through a 20-inch main under the head existing between the surface of the lake and the reservoir. The top of the spillway of the reservoir is 49.4 feet above sealevel, and the intakes of the pipe through which the water passes to the filters and pumps is at elevation 32 feet. The point at which the tunnel is to be constructed is about three miles above the dam of Brazos Brook reservoir, and about a mile and a half from the Panama railroad, at Quebrancha siding as it crosses the lake on the relocated line.

The project of cutting a tunnel into the lake, below its surface, was open to objection because of the possibility that water might seep along such a cut and be a waste and menace. The nature of the divide was determined by a number of borings. Beneath a surface covering of earth and shale, the divide is a ridge of solid blue argillaceous sandstone, of such density that water poured into the drill holes showed little absorption. At either end of the tunnel an approach will be made through an open cut; on the lake side tunneling will begin where the sandstone is found to extend above the high water level of the lake; on the reservoir side, the cut will be continued until a 12-foot face of the sandstone is exposed. The portals will be sealed with concrete around the main, and it is possible that the main through the length of the tunnel will be imbedded in concrete, for strength and protection against rusting. The height of the saddle at the point above the tunnel is 187 feet above sealevel; tunnel and approaches together will be about 600 feet in length. The flow of water through the tunnel will be controlled by three methods; by stop planks over the intake; by sluice gates in the gatehouse; and by 20-inch valves in the mains.

Two other projects were considered for transferring the water from the lake to the reservoir without cutting a tunnel below the surface of the lake. One involved laying a main over the lowest saddle between the watersheds, which is at elevation 150 feet, approximately, and pumping the water over. The other contemplated a tunnel with its bottom five feet above high water level of the lake, and the construction of a siphon system. The estimated cost of the siphon system was placed at $25,500, with an operating expense of about $100 per month. The estimated cost of the tunnel and main as adopted, is $16,700, with no operating charges.

The construction of the tunnel will insure a maximum supply of water to Colon and Cristobal amounting to 12,000,000 gallons daily. Following the past dry season, the water in the Brazos Brook reservoir was supplemented by pumping from the Mindi River, and by hauling water in lighters from the Agua Clara supply at Gatun. The quantity supplied from sources outside the Brazos Brook watershed amounted to about 114 750 000 gallons.

Excavation was begun for the construction of the new filtration plant at Mount Hope, as a part of the project for increasing the supply of water to Colon and Cristobal. This is to be modern in every respect and will be provided with a special system of spray aeration for treating the water from Gatun Lake. In its rise the lake has spread over approximately 80 square miles, beyond the 21 square miles which it covered when its normal surface was 14 feet above sea level. The water surface is now about 100 square miles; when the lake has attained its maximum elevation of 87 feet above sealevel its surface will be 167.4 square miles. In its spread it inundates a territory covered with timber or dense vegetation, or swamp. The vegetation has been decaying, and the stagnant backwaters are dark and tainted with the various orders of putrefaction. In some instances the water has become so exhausted of oxygen as to kill quantities of fish, the decaying bodies of which add to the taint. At the spillway of Gatun Dam, where the water is passing over the uncompleted portion of the ogee, at elevation + 50 feet, it has a strong and repulsive smell, mostly of hydrogen sulphide. This sulphide is present to such extent that, liberated from the spray in gaseous form, it attacks the paint on nearby ironwork and buildings. A stiff breeze across the spillway toward Gatun will make the fumes perceptible in the village, as much as a mile away.

The lower strata of water in the lake, as in lakes in temperate countries, become exhausted of dissolved oxygen. The living organisms, plants and animals, use some of it in respiration, but by far the most is consumed in the decomposition of organic matter. The amount and rate of exhaustion of dissolved oxygen at the bottom of a lake depend on the quantity of organic matter, the temperature of the water, and the volume of water below the thermocline. All three of these factors are present in Gatun Lake to a relatively high degree.

They are all present, however, to a high degree in the reservoirs in use over the Canal Zone. The prolonged and heavy rains furnish a large and deep stratum of water, richly laden with oxygen. After the part "turnover," occasioned in the setting up of vertical currents by the inflow of large quantities of cooler stream water at the beginning of the rainy season, the top stratum does not present conditions of stagnation. The stagnant water lies in the lower strata, out of contact with dissolved oxygen.

The oxygen-bearing stratum of water in the Carabali reservoir reaches a depth of eight feet in the middle of the rainy season; in the Cocoli reservoir it is seven feet deep; in Comacho reservoir, 16 feet; in Brazos Brook reservoir, 14 feet, and in the Rio Grande reservoir, 15 feet. The tunnel into Gatun Lake will have its intake within a normal ten feet of the surface.

Conditions within Gatun Lake will be much like those of Cocoli reservoir, which was formed by impounding the waters of the Cocoli River behind the west dam at Miraflores Locks, inundating a considerable area of vegetation. During the seasons of 1910-1911, and part of 1912, there have been opportunities to observe any disagreeable evidence of decomposition, in conjuntion with stagnation, occurring at Cocoli reservoir. Except at times of "turnover" the water consumed has been free of taint worth consideration, while analyses showed the upper stratum to have been free from objectionable matter.

Water now flowing over the spillway at Gatun Dam is impregnated with the decomposition of organic matter, made evident in the drift which is passing over the ogee. But under the normal flow at locks and spillway, when the Canal is in operation, and with the supply of fresh water from the Chagres and other streams tributary to the lake, the surface stratum will become less objectionable. The potability, however, of the lake water will not be dependent on this possibility. The system of aeration and filtration to be installed at Mount Hope has been devised to make potable even the stagnant and malodorous waters of the lake, were that necessary; while automatic regulation of the headgates at the tunnel will make the Gatun Lake water secondary and auxiliary to the supply in Brazos Brook reservoir. The former will be used only when the latter runs low.

Rainfall from November 1 to 23, 1912, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		Ins.
Ancon	1.57	4	5.69
Balboa	1.53	11	5.49
*Miraflores	4.70	11	9.16
Pedro Miguel	2.91	11	7.69
Rio Grande	1.31	11	6.40
Central Section—			
Culebra	1.78	23	7.27
*Camacho	1.05	15	5.36
Empire	1.35	23	6.73
Gamboa	1.21	6	6.27
*Juan Mina	2.02	8	10.15
Alhajuela	1.27	8	7.60
*El Vigia	1.60	6	6.26
*Gorgona	......	......	6.60
*Frijoles	1.74	7	13.73
*Trinidad	3.73	2	14.92
*Monte Lirio	1.52	3	11.80
Atlantic Section—			
Gatun	1.58	2	11.77
*Brazos Brook	3.02	6	16.26
Colon	2.94	4	15.17
Porto Bello	3.81	11	†15.29

*Standard rain gage—readings at 5 p. m. daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., November 22.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 4, 1912. (75th meridian time):

DATE.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.
November 28	......	5.42	12.08	6.15
November 29	12.32	6.28	12.58	7.05
November 30	1.24	7.21	1.50	8.00
December 1	2.23	8.20	2.49	9.02
December 2	3.50	9.28	3.55	10.10
December 3	4.38	10.45	5.04	11.18
December 4	5.45	12 m	6.10	......

Stages of the Chagres.

Maximum heights of the Chagres River for the week ending midnight, Saturday, November 23, 1912. All heights are in feet above mean sealevel.

DAY AND DATE.	STATION.			
	Vigia.	Alhajuela	Gamboa.	Gatun Lake
Sun., Nov. 17	127.4	93.6	56.1	55.9
Mon., Nov. 18	127.2	93.5	55.8	55.7
Tues., Nov. 19	127.4	93.6	55.8	55.6
Wed., Nov. 20	127.2	93.4	55.6	55.4
Thurs., Nov. 21	127.2	93.4	55.5	55.3
Fri., Nov. 22	127.0	93.3	55.4	55.2
Sat., Nov. 23	131.8	96.0	55.4	55.1
Height of low water to the nearest foot	125.0	91.0	44.0	

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PERMANENT WATER SUPPLY.

Gatun Lake Water to be Used as Auxiliary to Rio Grande in Pacific Section.

The committee, consisting of Mr. H. H. Rousseau, chairman; H. O. Cole, George M. Wells, James T. B. Bowles, and Luis Ernst, appointed to consider plans and make recommendations for a permanent water supply for the Pacific end of the Canal, has submitted its report, and same has been approved by the Chairman.

The plans contemplate the continued use of the Rio Grande reservoir, and the increasing of its capacity by raising the dam to elevation 265 feet, or 27 feet above the present crest. It is believed that with the increased capacity the reservoir will supply at least 6,000,000 gallons of water a day, except in years of minimum rainfall, such as 1888 and 1912.

It is further proposed to use the Camacho reservoir as an auxiliary supply. The surface of the water in this reservoir at high level is 100 feet above that in the Rio Grande, so that a gravity flow between the two reservoirs could be maintained by means of a pipe line, or by a small concrete-lined aqueduct laid around the main hills for a distance of about 13,000 feet. It is estimated that about 1,500,000 gallons of water a day would be added to the Rio Grande supply in this manner. Before final adoption of the Camacho pipe line, the committee recommended that an estimate be made of the cost of laying the line, as compared with an estimate of the cost of pumping the same amount of water a day from Gatun Lake.

Assuming that 7,500,000 gallons of water a day might be obtained from the above sources, the committee turned its attention to the matter of a further supply. The possibility of procuring water from the Pedro Miguel and Cocoli rivers was discussed, but the idea was abandoned in favor of Gatun Lake.

The plan of pumping water from the lake at a point on the west side of the Canal, just north of the entrance to Pedro Miguel Locks, would involve the installation and operation of electrically-driven pumps, but it would provide an absolutely certain supply during all months of the year, and would take care of a consumption far beyond the present estimate.

In studying the consumption charts for the past few years, based upon the total amount of water fed through the mains from Rio Grande and Cocoli, the committee found that the total consumption from Pedro Miguel south, exclusive of the Central Division engines hostled at Pedro Miguel, has increased rapidly from year to year, and now approximates 8,000,000 gallons a day. The consumption in Panama City has risen from 700,000 gallons to 2,000,000 gallons a day in six and one-half years. It was the opinion of the committee that the completion of the work at Pedro Miguel and Miraflores, resulting in the elimination of all steamshovels and locomotives, will not reduce the above amount by more than 800,000 or 900,000 gallons a day, or approximately 1,000,000 gallons a day, allowing for the amount of water used in lock construction. On the other hand, the concentration of the main shops, terminals, administration force, coast artillery force, Marine camp, etc., will, it is believed, more than offset the reduction in consumption due to closing down the Canal work, and that, therefore, the consumption will probably not be less than 8,000,000 gallons a day when the Canal opens. If a force of 7,000 troops is stationed at Miraflores, it will use at least 700,000 gallons of water daily. If these troops should be stationed at East Culebra, it would still in all probability be more economical to supply water to them from the mains at Pedro Miguel, by pumping into a reservoir placed at or near Gold Hill, than to construct a reservoir on Pedro Miguel River, or some other stream. It is believed that a large increase may be expected in the amount required by Panama city. Provision is being made to furnish water along Las Sabanas road, and the indications are that the city may extend in that direction. The existence of docking and repair facilities at Balboa will no doubt lead to ships requiring fresh water before going to sea, but the scope of this demand cannot be foretold. At Gatun, including New Gatun, where a large number of houses are metered, the average daily consumption per capita is approximately 100 gallons. This does not include manufacturing plants. Based upon this, and on an estimated total of 68,929 people to be served, the amount of water required would aggregate nearly 7,000,000 gallons a day, exclusive of shops, railroad terminals, shipping, Naos Island, and the infantry camp. In view of the above, the committee recommended that the maximum normal supply should not be less than 12,000,000 gallons a day, and that the purification plant, pump station, and accessories be designed not only for that amount, but that provision be made for their future extension and enlargement without interference with the continuity of the supply.

The experience gained during the past six years, and particularly during the last year of the Agua Clara plant at Gatun, conclusively indicated in the minds of the members of the committee that the stream waters of the Isthmus yield readily to aeration, and aluminum sulphate treatment, followed by sedimentation and sand filtration. Heretofore, little attention has been given to the bacterial efficiency of the treatment, because practically all the water used for drinking purposes has been taken from uninhabited watersheds, with very little risk from contamination. In the proposed new water supply, the use of Gatun Lake water makes the matter of bacterial efficiency an important one. It is believed that a properly designed purification plant, with aeration and sedimentation, using aluminum sulphate, followed by rapid sand filtration, will take care of such water, but to provide against the possible contingency of pathogenic bacteria getting into the filtered water mains, it is proposed to use a bleaching agent—hypochlorite of lime—in addition to the aluminum sulphate, this agent to be used only when the daily analysis of the water indicates the presence of B. coli. The cost of this treatment would be small.

The committee considered the relative merits of pressure filters, as compared with the rapid mechanical gravity filters. It was shown that the first cost would be less, and that there would be an approximate saving in head of from nine to 15 feet by the adpotion of the mechanical gravity type. It was further shown that filters of this type are rapidly supplanting those of the pressure type. The committee recommended their adoption.

It was believed that in using both the present 20-inch and 16-inch mains from the Rio Grande reservoir into Panama, the best plan would be to install pumps on these lines just south of the proposed purification plant to act as "boosters" to the gravity head available, these pumps to be designed to deliver the maximum supply south of Corozal, with a terminal pressure practically zero at some point near the present low level reservoir at Ancon. At the latter point, it is proposed to install a second "booster" station with pumps directly on the main to lift water to the low and high level reservoirs. This line would be by-passed, so that the pumps could pump directly into the mains fed from the above reservoirs. All pumps and stations would also be by-passed, so that in case of trouble to the pumps, the head due to gravity would deliver some water through the mains. The "booster" pumps will obviate the necessity of laying an additional feeder line, at least until the estimate of 12,000,000 gallons of water a day is exceeded. "Booster" station No. 1 would probably be located on the west bank of the Canal, north of Pedro Miguel Locks, and would contain the supplementary pumps furnishing Gatun Lake water to the purification plant. "Booster" station No. 2 would likely be situated at some point near the present pump station at Ancon.

At the present time there are at Ancon two high pressure reservoirs, each of 1,000,000 gallons capacity, one situated on the east side of Ancon Hill at an elevation of 295 feet above sealevel, and the other on a knoll back of Hotel Tivoli, at an elevation of 138 feet. The committee was of the opinion that additional high pressure storage is necessary, and recommended the construction of a new 1,500,000-gallon reservoir immediately adjacent and connected to the present high level reservoir on Ancon Hill.

There is installed in the masonry of the emergency dam at the north end of Pedro Miguel Locks, a 24-inch diameter cast iron main carrying the water from the Rio Grande across the locks. It was the opinion of the committee that, as a measure of safety, and to provide for a possible future increase, an additional cast iron main, 30 inches in diameter, should be carried across the locks to a junction with the present 16-inch and 20-inch water mains.

The committee investigated a number of sites with reference to the location of the proposed purification plant, but refrained from making a recommendation, except that the plant be situated at the best point available on the west side of the Canal, north of Pedro Miguel Locks.

The committee recommended that such work be done as will make the old 16-inch main continuous from the Rio Grande reservoir to Panama, and that it be cross-connected to the new 20-inch main throughout its length. This will necessitate the laying of 3,940 lineal feet of new 16-inch main from the Rio Grande reservoir south along the present 20-inch main, the taking up and relaying of 2,700 feet of the old main from Pedro Miguel Locks north to join that part of the old main now in position, the taking up of approximately 11,600 feet of the 16-inch main now in use, lying within the Miraflores Lake area, and relaying it parallel to the 20-inch main along the Panama railroad and across the Miraflores tunnel hill, finally joining the present 16-inch main south of the Miraflores power house; and the laying of 3,100 feet of 16-inch pipe

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and eight at Miraflores, only one had been installed up to May 1, namely, at Gatun.

HYDROELECTRIC PLANT.

Excavation for the foundations of the hydroelectric station at Gatun spillway, which will generate electricity for all of the operating machinery and lights of the Canal, is practically completed. The erection of the three penstocks was about 95 per cent completed on May 1. All of the turbogenerator subfoundations are in place, three water turbines have been installed, and the erection of the turbogenerators is about 45 per cent completed. All of the structural steel for the station building has been received. A full description of the plant is given in THE CANAL RECORD of July 3, 1912.

TRANSMISSION LINE.

All line construction material for the Cristobal-Balboa electric transmission line is now under contract, with deliveries promised in about four months. It is expected to award contract for the substation equipment shortly. Construction work on foundations has been started at New Culebra Siding.

EXCAVATION.

The greater part of the material remaining to be excavated from the Canal in the dry is confined to a section of Culebra Cut extending from Cucaracha slide to a point south of the Empire suspension bridge, a total distance of about 9,000 feet. Of the 6,633,400 cubic yards remaining to be removed in the entire Culebra Cut section on May 1, only about 1,500,000 cubic yards come under the head of original excavation. The remainder was brought in by slides, which were again active during the year. Cucaracha slide, which first developed in 1907, and afterward became inactive, was the scene of a new movement in December, 1912, which has continued to a greater or less extent up to the present time, although the steamshovels now concentrated at that point are making headway against it. A new movement also developed on February 5 in the slide on the east bank, opposite Culebra village, and additional movements have been recurring there. Blasting operations in the Cut will probably be concluded within about three months' time, and this may diminish the danger from slides to some extent. The work of terracing the east and west banks of the Canal, north of Gold Hill and Contractor's Hill, to lessen their weight, has continued uninterruptedly. The increased activity on the part of slides made necessary a revised estimate of excavation, and in February, 1913, 5,634,161 cubic yards were added to the total, making the estimate for Culebra Cut 99,516,817 cubic yards, and for the the entire Canal 218,138,299 cubic yards. The excavation in the Culebra Cut section, by years, follows:

May 1 to May 1	*Cubic Yards.*
1904–05	648,911
1905–06	1,250,570
1906–07	4,861,895
1907–08	11,285,217
1908–09	13,955,753
1909–10	14,886,427
1910–11	15,925,976
1911–12	16,448,513
1912–13	13,762,255
Total	93,025,517

In the Chagres section there remain to be removed about 300,000 cubic yards, consisting principally of silt brought down by the Chagres River. This work will be done by dredges after the water has been turned into the Cut.

Dry excavation in the Canal prism, outside of the Culebra Cut section, is confined to 875,553 cubic yards in the Fifth Division, principally between Pedro Miguel and Miraflores Locks, and south of Miraflores Locks to the limit of dredging operations marked by the north dike. It is expected that all steamshovel excavation in the Fifth Division will be completed by August 15.

The work by dredges in the entrances to the Canal is approaching completion. In the Pacific entrance, there is an open water channel extending from Station 2145 to Station 2260. This channel carries a depth of plus 40 feet at mean tide, at the present time, with a few rock shoals to be removed to bring it to grade. From Station 2145 to deep sea Station 2500, a distance of 36,500 feet, the Canal is excavated down to and below grade, thus permitting the navigation of vessels drawing 40 feet of water to the dam at Station 2145, from deep sea. Dredges will be set at work shortly in the section between the dikes, immediately below Miraflores Locks, where approximately 1,400,000 cubic yards of rock are to be taken out.

On the Atlantic side, the dredges are nearing the lower approach to Gatun Locks, and on May 1, there were 35 feet of water in the channel to mile post 5 plus 2,200 feet, except one shoal at west point of bank at mile post 4 plus 2,500 feet. There are 26 feet of water over this shoal. The navigable channel now extends to within 2,100 feet of Gatun Locks. A consolidation of all the dredging operations on the Canal was made on May 1, and Mr. W. G. Comber, resident engineer, Sixth Division, was placed in charge. A plan of operation under the new arrangement is being worked out.

Two new 15-cubic yard dipper dredges, capable of digging to a depth of 50 feet below the surface of the water, were contracted for on January 13, 1913. A description of these dredges was given in THE CANAL RECORD of February 5, 1913.

BREAKWATERS.

The trestle, 3.29 miles long, connecting Naos Island with the mainland at East Balboa, was finished on November 6, when rail communication with the island was established. Dumping on the embankment fill is proceeding at the rate of about 12 trainloads a day. Under the order of preference recently adopted in the matter of making fills with material available to October 1, the breakwater fill is placed second in importance, that of the new Pedro Miguel townsite being first. The breakwater, according to present plans, will be built as far as practicable above high tide, with sufficient width at the top for a railway track and single roadway. The dike will be armored for most of its length to resist wave action.

The trestle on the west breakwater extending out from Toro Point, in Limon Bay, was completed on January 1, 1913, and has a total length of 11,526 feet. The work of armoring both sides of the breakwater with hard rock obtained from Porto Bello, large pieces on the outside, and smaller ones on the inside, is in progress. It is estimated that about 800,000 cubic yards of hard rock will be required for the purpose, and up to May 1, 209,442 cubic yards had been placed.

PERMANENT WATER SUPPLY.

Plans for a permanent water supply on the Pacific side were approved in March, 1913. They contemplate the continued use of the Rio Grande reservoir, with an increase in its capacity procured by raising the dam 27 feet above its present crest; also, the continued use of the Camacho reservoir at Empire by laying a pipeline from it to the Rio Grande reservoir, and by pumping water into the supply mains from Gatun Lake, just north of the entrance to Pedro Miguel Lock, with the installation of a new pumping station, purification plant, and accessories nearby. An additional 1,500,000-gallon high pressure reservoir will be built on Ancon Hill. All plans for the permanent water supply are based on an ultimate consumption of at least 12,000,000 gallons daily in the villages and industrial plants on the Pacific slope.

The water supply plans on the Atlantic side contemplate the continued use of Agua Clara reservoir at Gatun to serve the permanent village near the locks, and of Brazos Brook reservoir to supply Colon and Cristobal, with provision for an auxiliary supply by piping water into the reservoir from Gatun Lake. A new waterworks plant is under construction at Mount Hope, and progress thereon is set forth in an article in another part of this issue.

TERMINAL FACILITIES.

The construction of the permanent terminals at the Pacific end of the Canal was begun with the removal of the Commission village of Balboa, and the remnants of the native village of La Boca, in June and July of 1912. Excavation was begun near the northeastern limit of the village sites in July, and has proceeded southward, cutting into Sosa Hills to make a wide, level site for shops, etc. Following the completion of excavation along Sosa High, the macadam highway was rebuilt at the base of the bluff, and the Balboa line of the Panama railroad was shifted into the area of excavation, east of its former location, in order to clear the site of the large drydock, No. 1. The dispensary was relocated at the foot of the hill, the postoffice was moved to the east side of the hill, toward the Balboa commissary store, and only the necessary shops, storehouses and office buildings were left on the the former village site.

Excavation for drydock No. 1 and its entrance slip began on January 1. Up to May 1, 107,495 cubic yards, or about eight per cent of the total, had been removed. The drydock entrance slip will extend beyond the present shore line, and the construction of a large cofferdam to permit of excavation in the dry, was begun in April, 1913. The building of the cofferdam necessitated the transfer of the dredge landing and the construction of a new coal pocket for supplying vessels. They have been located just north of the steel pier, on the site occupied by the wharf which collapsed on August 17, 1912.

Work on the quay walls and the one new pier authorized to date has included the sinking of over 28 per cent of the six-foot concrete caissons. The overwater parts of these structures will be supported on steel caissons, none of which has been sunk to date. A completed section of the 55-foot quay wall, 656 feet long, was placed in commercial service on July 13.

Construction work accomplished to date on the permanent shops includes the driving of foundation piles for all the footings under buildings Nos. 5, 6, 8, and 10, and of those footings for buildings Nos. 1, 2, 3, 4, 9, 11, and 12 which will be on piles. The remaining

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new substation to be erected north of the present administration building, following the general line of the telephone exchange, lodge hall, fire station, to the hospital building. From a point near the telephone exchange, an armored cable branch would extend to the group of buildings in the vicinity of the concrete range light tower, another from near the fire station to the division engineer's residence and buildings in that locality, and a third from near the hospital to the group of buildings west of the Panama railroad. The underground system as outlined would be connected to the present overhead secondary distribution. Authority has already been granted for the construction of an armored cable line from the Gatun substation to the permanent filtration plant at Agua Clara.

CRISTOBAL-COLON.

This district will be supplied with electric light and power from a transformer substation to be built at Mount Hope. The committee has recommended that a trunk conduit line be laid from Mount Hope to Cristobal, and that the distribution system in Cristobal and Colon be placed underground. The present Panama railroad system in the two towns is already to a large extent underground. The committee expressed its belief that underground systems in the permanent towns can be installed within the coming year, and recommended that the work be begun at once, in order that it may be planned and executed with due regard to other permanent work.

The combination system referred to above was approved, in general, by the Chairman and Chief Engineer on September 12, but the stipulation was made that each piece of work be authorized separately and handled on separate work requests. A standing committee, consisting of Mr. Hartley Rowe, chairman; Capt. W. H. Rose, Mr. W. H. Fenley, and Mr. W. L. Phillips, has been appointed, which will be in charge of all matters pertaining to the proposed combination system.

Fire Drills in Canal Zone Schools.

The practice of holding fire drills has been instituted in the Canal Zone schools. These drills, now incorporated into most of the school systems of the United States, have as their object, not only their protective value in case of fire, but also the training they provide in poise and self-control. As a result of a conference with the chief of the Canal Zone Fire Department, it was decided that these drills should be practiced at least once a week until the desired results have been accomplished, when the number may be reduced to two a month, and eventually to one a month. Under the effective working of the system, the alarm is given without any previous warning, and in order that the protective value may not be lost, the same conditions govern in the case of a false alarm as those of a genuine alarm. The working out of the details of these drills has been left to the principal and teachers of the respective schools, and advantage will be taken from time to time of any improvement that the practice may suggest. A monthly report of these drills will be made to the superintendent of schools, together with a summary of the results accomplished.

New Dipper Dredges.

The *Gamboa*, the first of the two 15-cubic yard dipper dredges contracted for by the Canal Commission early in 1913 for work in Culebra Cut, was launched recently at Newburg, N. Y. In accordance with the terms of contract with the builders, the Bucyrus Company of South Milwaukee, Wis., one of these dredges must be delivered at an Atlantic port on or before December 1, 1913, and the other on or before January 1, 1914. It is planned to take the *Gamboa* to New York City about December 1, and to bring it to the Atlantic entrance of the Canal in tow of a seagoing tug. The second dredge will be named the *Paraiso*. A detailed description of these dredges was published in THE CANAL RECORD of February 5, 1913.

Cristobal Dancing Club.

The regular dance of the Cristobal Dancing Club will be held on Saturday, November 8, at the Commission club house. Date of the second dance will be announced on that evening.

W. H. MARSH,
Secretary.

Cristobal, C. Z., November 4, 1913.

The construction of two sidings at Coco Solo Point in connection with the proposed east breakwater work, to be built parallel to the track leading from Margarita Point to Coco Solo Point, has been authorized.

Alighting platforms will be built for the convenience of passengers at New Frijoles station, and at New Culebra Siding on the Panama railroad main line.

The Gatun Hunting Club held its last annual barbecue and hunt at Camp Bohio, in the Gatun Lake section, on Sunday and Monday, November 2 and 3. The barbecue was held on the high ground adjacent to the former residence of Mr. Porfirio Melendez at Bohio, the place being one of the old hunting grounds of the club.

A new hotel for the use of gold employes only was opened at Ancon on Tuesday, November 4, while the I. C. C. hotel at Bas Obispo was permanently closed on Sunday, November 2.

Launch Service to Taboga.

The steam launch *Sanidad* leaves the dredge landing at Balboa at 9 o'clock, Tuesday, Thursday, and Saturday mornings. On the return trip it arrives at Balboa about 4 p. m., in time to make connection with the evening trains.

THANKSGIVING.

The President's Proclamation.

By the President of the United States of America. A proclamation:

"The season is at hand in which it has been our long respected custom as a people to turn in praise and thanksgiving to Almighty God for His manifold mercies and blessings to us as a nation.

"The year that has just passed has been marked in a peculiar degree by manifestation of His gracious and beneficent providence. We have not only had peace throughout our own borders and with the nations of the world, but that peace has been brightened by constantly multiplying evidences of genuine friendship, of mutual sympathy and understanding, and of the happy operation of many elevating influences both of ideal and of practice.

"The nation has been prosperous not only, but has proved its capacity to take calm counsel amidst the rapid movement of affairs and deal with its own life in a spirit of candor, righteousness and comity. We have seen the practical completion of a great work at the Isthmus of Panama, which not only exemplifies the nation's abundant resources to accomplish what it will, and the distinguished skill and capacity of its public servants, but also promises the beginning of a new age of new contacts, new neighborhoods, new sympathies, new bonds, and new achievements of cooperation and peace.

" 'Righteousness exalteth a nation,' and 'peace on earth, good will toward men' furnish the only foundations upon which can be built the lasting achievements of the human spirit. The year has brought us the satisfactions of work well done and fresh visions of our duty which will make the work of the future better still.

"Now, therefore, I, Woodrow Wilson, President of the United States of America, do hereby designate Thursday, the 27th of November next, as a day of thanksgiving and prayer, and invite the people throughout the land to cease from their wonted occupations and in their several homes and places of worship render thanks to Almighty God.

"In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

"Done at the City of Washington, this 23d day of October, in the year of our Lord one thousand nine hundred and thirteen and of the independence of the United States of America the one hundred and thirty-eighth.

"WOODROW WILSON.

"By the President:

"W. J. BRYAN, *Secretary of State.*"

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to August 31, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal Year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal Year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal Year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal Year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001.60
Grand total	6,512,732.49	48,049.28	16,484,454.69	189,754,190.89	88,349,298.15	3,396,055.42	304,544,780.92

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GOLD CLAIMS INVESTIGATED.

Pannings By Geologist in Canal Zone Streams Show Slight Values.

A number of placer claims lying along the Gatun River and its tributaries, some of them within and some without the Canal Zone, have been investigated by Mr. D. F. MacDonald, the Commission geologist, with the result that nowhere was gold found in paying quantities, and in most instances there was only a "Color." The gravels were sampled with gold pans in the parts of the streams which seemed most likely to carry values, and the gold in these samples was recovered and weighed.

Along Guineal Creek, a small feeder of the Gatun River, very little gravel was found, and 17 pans yielded but one small color. On Palenque Creek, 30 pans were washed, which yielded six-tenths of one cent's worth of gold, equal to about 2.1 cents per cubic yard. On Cuatro Calles Creek, 20 pans were washed, with a yield of .13 of one cent's worth of gold, equal to about seven-tenths of a cent a cubic yard. On the Agua Clara River, the northeast branch of the Gatun River, a total of 52 pans of gravel produced less than one cent's worth of gold, equal to about two cents to the cubic yard.

Sampling was continued down the Gatun River for a mile or more below the mouth of the Agua Clara. From 46 pans of samples selected in this locality, the yield was .55 of one cent's worth, equal to about one cent to the cubic yard. A bar of gravel about one-half hectare in extent occurs on the Gatun River, just above the mouth of the Agua Sucia. It was the richest place found, and the pannings from it were kept separate on that account. At this point, six pans gave .45 of one cent's worth of gold, equal to about 7.5 cents to the cubic yard. The geologist was of the opinion that the gravel here could not be made to yield a profitable return, because the exceedingly fine character of the gold would cause a considerable percentage of loss in recovery. A second trial made at the same bar with six pans of gravel yielded but .07 of one cent's worth of gold, or about 1.2 cents a cubic yard.

The Agua Sucia Creek is a fairly large tributary of the Gatun, and enters it about a mile below the mouth of the Agua Clara. It flows through a wide, flat tract of country, with much alluvium, relatively little gravel, and few outcrops of rock. Out of 47 pans washed along this stream, not one yielded a color. This was regarded as remarkable, because most of of the streams in the Canal Zone and its vicinity, show occasional colors. On the Gatun River, below the mouth of the Agua Sucia, 28 pans were washed, which gave .35 of one cent's worth of gold, equal to about 1.3 cents to the cubic yard.

Investigations were made also on the Quebrada Lopez, a tributary of the Quebrada Media. This creek was reached by going over the divide from Minas Bay. It flows through a very deep, steepsided valley, so that the ground at its bottom should be the result of a high degree of stream concentration. Well up toward the headwaters, five pans of gravel were washed, and these yielded .07 of one cent's worth of gold, equal to about 1.4 cents a cubic yard. One hundred yards downstream, three pans yielded .08 of one cent's worth of gold, equivalent to about 2.7 cents to the cubic yard. Half a mile farther down, three pans returned no colors. Two-thirds of a mile from the first washing, three pans produced .23 of one cent's worth of gold, equal to about eight cents to the cubic yard. The claims along this stream are regarded as valueless, because there are only a few gravel bars, and where there are colors, the gold is not in paying quantities.

The following table gives a summary of the various washings, together with the estimated value of gold to the cubic yard, and the estimated cost of working per cubic yard:

LOCATION.	No. pans	Values per cubic yards, cents.	Cost per cubic yard of working gravels.
Guineal Creek	17	Trace	$1 plus.
Palenque Creek	30	2 1	1 plus.
Cuatro Calles Creek	20	.7	1 plus.
Quebrada Pato	22	.6	1 plus.
Quebrada Mollejones	12	0	1 plus.
Agua Clara	52	2 0	12 cents plus.
Main Gatun River	46	1 0	12 cents plus.
Bar near mouth of Agua Sucia Creek	6	7 5	12 cents plus.
Another part of same bar	6	1.2	12 cents plus.
Agua Sucia Creek	47	.0	60 cents plus.
Main Gatun, below mouth of Agua Sucia	28	1.3	12 cents plus.
Quebrada Lopez	14	2.7	60 cents plus.

The cost of the working varies with the amount and depth of material to be washed. The geologist is of the opinion that the particular territory sampled has practically no value for mining purposes.

Progress on Atlantic Entrance Coaling Plant.

Excavation for the approaches and storage basins of the permanent coaling station for the Atlantic entrance is being carried on by the pipeline suction dredge *No. 83*. About 11.5 per cent of the estimated requisite excavation has been completed, the total removal to November 15 being approximately 64,372 cubic yards of coral rock, and 70,889 cubic yards of coral sand. The plant is to be situated at the north end of Mindi Island, across the French canal from a point about midway between Dock 13 and Pier 11, and the spoil from the dredge is deposited in adjacent low places on the island and in shallows well removed from the channels of the French and American Canals. The material being handled is soft; the surface of the island at this end is a semisubmerged swamp, and a typical section of the soil shows shells, sand, and soft coral near the surface, going down through silt and loose coral, with shells mixed in, to brown clay and gravel, merging into soft blue rock at about 55 feet below sea-level. Excavation for the wet storage basin will go 28 feet below sealevel. The wharves and coal-handling towers are to be supported on caissons sunk well into rock.

Rail connection with the site is being constructed by forces of the Panama railroad. A spur track leaving the Mount Hope yards near the dry dock runs south about 3,000 feet, approximately parallel to the French canal, swings to the right and across the Canal by means of a pile trestle, then, over a 90-degree curve, strikes north for 3,500 feet to the site of the plant. For the greater part of the way, it runs through watery marsh, and considerable difficulty was experienced in the first laying of track. Crib work of old ties was built in the swamp, and the track advanced by spans of bridge stringers. Earth was then dumped from the track to form a permanent embankment, which has been raised to about 10 feet above sealevel and is very firm. Red clay for the embankment is now being supplied by steamshovel No. 225, working in a borrow pit near the obsolete storage yard at Mount Hope, and placed by two trains of Oliver dump cars. The trestle across the French canal is to be replaced by a permanent steel bridge with movable span, in order to allow navigation of the channel. The crossing has been placed well beyond the Mount Hope docks, in order to afford tying-up places for the dredging and general service floating equipment employed at the Atlantic entrance.

The "Newport" Again in Service.

The steamship *Newport*, which sank at Balboa on August 17, 1912, when the wooden wharf alongside which it was moored collapsed, returned to Balboa on November 24, on its first voyage since it was recovered and repaired. The vessel was floated on November 10, 1912, and, after disposing locally of all its cargo not consigned to San Francisco, sailed for that port under its own steam on December 10. It was repaired by the Union Iron Works, and at the same time considerably remodeled for passenger service in the tropics, and equipped to use oil instead of coal for fuel. On its first voyage it carried 45 cabin and 55 steerage passengers.

The Pacific Mail Steamship Company, which owns and operates the *Newport*, is suing the Panama Railroad Company, owner of the wharf which collapsed, for $800,000 damages, in the Admiralty Court of the District of New York. The railroad denies fault. Its defense is being conducted by the district attorney of the United States for the District of New York, and Mr. Richard Reid Rogers, general counsel for the Panama Railroad Company.

Drainage Culvert under New Terminal Yards at Balboa.

The track for the permanent yards of the Panama railroad, in rear of the concrete head wall and pier now under construction, will be laid on a fill east of the east toe of the abandoned Sosa Dam, which is used at present for the storage of material and spare parts. In preparation for the completion of the fill, a reinforced concrete culvert is to be constructed south of Diablo Hill for the passage of the Curundú River, and of drainage water from the swamp area being reclaimed between El Diablo and Ancon. The culvert is to be of the twin type, a reinforced concrete wall, two feet thick, separating the two passages, each of which is to be 10 feet wide and seven feet high. It will be 256 feet long, traversing at right angles a site for 13 parallel railway tracks, and a 20-foot highway. As the natural soil at this point is a swamp, the culvert is to be supported on 425 wooden piles, driven on 3½-foot centers. Excavation and pile-driving are being accomplished in the dry, under the protection of dikes, and when the culvert is completed the Curundú River will be diverted through it.

Launch Service to Taboga.

The steam launch *Sunidad* leaves the dredge landing at Balboa at 9 o'clock, Tuesday, Thursday, and Saturday mornings. On the return trip it arrives at Balboa about 4 p. m., in time to make connection with the evening trains.

CANAL RECORD

SEAL OF THE CANAL ZONE ISTHMUS OF PANAMA — THE LAND DIVIDED THE WORLD UNITED

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The Canal Record

Official publication of The Panama Canal.

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Isthmus of Panama.

No communication either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

CANAL OPENED TO TRAFFIC.

Message of Congratulation from the Secretary of War.

The following cable message has been received:

WASHINGTON, D. C.,
August 15, 1914.

COL. GEORGE W. GOETHALS,
Culebra, Canal Zone.

On behalf of the Government and the people of the United States I express to you and through you to all concerned in the achievement, the intense gratification and pride experienced today. By the successful passage of vessels through the Canal the dream of the centuries has become a reality. Its stupendous undertaking has been finally accomplished and a perpetual memorial to the genius and enterprise of our people has been created. The fully earned and deserved congratulations of a grateful people go out to you and your colaborers.

LINDLEY M. GARRISON,
Secretary of War.

Official Trip of the "Ancon."

Commercial traffic between the Atlantic and Pacific Oceans by way of The Panama Canal was inaugurated on Saturday, August 15, by the Government steamship *Ancon*, which made the trip from entrance to entrance in approximately nine hours, well within the previously estimated time for the passage of a ship through the Canal. The complete trip from the ship's berth at dock No. 9, Cristobal, to the end of the dredged channel, five miles out in the Bay of Panama, was made in approximately nine hours and 40 minutes. There were no unscheduled delays, and the handling of the vessel in the locks and through the channel sections characterized the entire operation as one of the smoothest up to that time.

The *Ancon* carried, as guests of the Secretary of War, about 200 people, the list including President Porras and his cabinet and other Panama Government officials, the members of the diplomatic corps and resident consuls-general, officers of the Tenth Infantry and Coast Artillery Corps, officials of The Panama Canal, and a few others. A special train was run, leaving Panama at 5 a. m., on Saturday, conveying the guests from the Pacific end direct to the dock at Cristobal.

The vessel left its berth at about 7.10 a.m., arrived in the Atlantic entrance at 7.30, and at Gatun Locks at 8 o'clock. It entered the lower lock at Gatun at the same hour and passed out of the upper lock on the water of Gatun Lake about one hour and a quarter later. The entrance to the Culebra Cut section at Gamboa was reached at about 11.15, and Cucaracha slide was passed at 12.20 p. m. Pedro Miguel Lock was reached at 12.56, and the vessel passed into Miraflores Lake at about 1.19. It entered Miraflores Lock at about 1.56, and passed out of the lower lock into the sea channel at 3.20. It arrived off Balboa docks at 4 o'clock, and reached the end of the dredged channel at 4.30. This completed the official trip, and the vessel returned to Balboa, anchoring in the channel at about 5.10 p. m. People gathered to witness the passage at various points along the route, and at Balboa as many as 2,000 were present.

The *Ancon* is practically a twin ship to the *Cristobal*. Both were formerly owned by the Boston Steamship Company, and at one time were in the trade between Puget Sound and the Orient under the names of the *Shawmut* and the *Tremont*. They were purchased under authority of Congress contained in the Sundry Civil Appropriation Act of May 27, 1909, and were turned over to the United States Government on January 1, 1909. At the same time their names were changed, the *Shawmut* to the *Ancon*, and the *Tremont* to the *Cristobal*. They are steel twin screw steamers of 9,606 gross and 6,195 net tons each, and were constructed by the Maryland Steel Company. They were originally purchased for use as cement carrying ships and were in that service, under the management of the Panama Railroad Company, during the period of lock construction. The *Ancon* on its first trip through the Canal carried a quantity of cargo for delivery at Balboa. It will return to the Atlantic side on Sunday, August 23, and will sail on its voyage to New York on Monday, August 24.

Commercial Vessels Using the Canal.

The following commercial vessels, which had been waiting at the terminals, were passed through the Canal on Sunday, August, 16:

Northward, Balboa to Cristobal—*Pleiades*, Luckenbach Steamship Company; *Pennsylvanian* and *Arizonian*, American-Hawaiian Steamship Company, *en route* from San Francisco to New York.

Southward, Cristobal to Balboa—*Missourian* and *Nebraskan*, American-Hawaiian Steamship Company, and the yacht *Lasata*, a pleasure craft, *en route* from New York to Pacific ports.

The *Isabella* of the Luckenbach Steamship Company, and the *Admiral Dewey*, now owned by the Pacific Alaska Navigation Company, passed from Cristobal to Balboa, on their way from New York to San Francisco, on August 17 and 18, respectively.

The *Santa Catalina*, W. R. Grace and Company, and the *Kentuckian* and *Montanan*, American-Hawaiian Steamship Company, are now due at Balboa from Pacific ports and upon their arrival will pass directly through the Canal, for New York.

All of the abovenamed vessels are of American register.

Mr. Charles H. Boucher, representative of the American-Hawaiian Line has advised that his company expects to have a vessel pass through the Canal northbound every 72 hours, and in like manner, one southbound at the same intervals of time, which will mean the passage of one of this company's vessels through the Canal every 36 hours.

First Vessel of War Through the Canal.

The Peruvian torpedo destroyer *Teniente Rodriguez* arrived at Colon on Sunday, August 16, and was passed through the Canal on Tuesday, August 18, making it the first vessel of war to use the waterway. The destroyer has been on a trip up the Amazon River as far as Iquitos, stopping on the return trip at Para, Trinidad, and Curaçao. It is a vessel of 460 tons, built in France about two years ago for the Peruvian Government, and is manned by a crew of 54.

Panama Railroad Not a Cocarrier After November 15.

Following the opening of the Panama Canal to commerce, a 90-day notice, dating from August 15, will be served on all cocarriers of the Panama Railroad Company to the effect that the existing working arrangement whereby the railroad acts as an intermediate carrier will be terminated. After the expiration of the 90-day period the steamship lines to the Isthmus will be expected to make their own arrangements for the transfer of cargo, either at Cristobal or Balboa, as may be most advantageous, and the railroad will serve as a cocarrier only in case of emergency.

Heavy Fall of Rain Around Gatun.

An unusually heavy rain fell in the vicinity of Gatun on the afternoon of August 12. The maximum fall for one hour, 3.45 p. m. to 4.45 p. m., at Gatun, amounted to 4.72 inches. This hourly record has been exceeded but twice on the Isthmus since automatic records have been kept, namely, 5.86 inches in one hour at Balboa on June 2, 1906, and 4.90 inches at Colon on October 8, 1908. The heaviest fall on August 12 occurred at Agua Clara reservoir, amounting to seven inches in a little less than two hours.

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draft of general instructions to private individuals and corporations was prepared, covering the construction ot oil storage tanks by line connections. Further investigation and study relative to the location of handling plant and pipelines for the Atlantic terminal were made.

Storage tanks Nos. 3 and 4 are completed as to hydraulic test and calking and painting, and 75 per cent as to pipeline connections. No. 3 is 50 per cent completed as to construction of concrete apron and installation of drainage pipes, and No. 4 is completed in these respects; No. 4 is 50 per cent completed as to fire wall construction, while the work has not been begun on No. 3.

Shops—Work was continued on buildings Nos. 1 to 9, 12, 14, 15, 16, and 27, and on the cinder pit and water and oil cranes. Two hundred and twenty-one cubic yards were placed in building foundations, 412 cubic yards in machine foundations, 51 cubic yards in shop floors, 80 cubic yards in shop walls, 98 in shop beams, columns, and roofs, seven in shop drains, and 20 in shop tunnels. Work was also carried forward on the drainage system for the shop area.

ATLANTIC TERMINALS.

Coaling plant—Plans were issued for the construction of the pile and concrete supports for the bridge tracks and viaduct posts south of station 11 plus 69.0; various matters concerning the contract for coal handling machinery were disposed of. The design of the cylinder wharf structure was proceeded with, with a view to its advertisement at an early date.

Preparatory work was carried on at the site of the plant, pile driving by three drivers was begun, materials were received, the field office was completed, tests were made of the bearing power of the hydraulic fill, dry fill was placed, and a temporary air compressing plant was installed. The force at present numbers 20 gold and 244 silver employes.

West breakwater—During the month of April, 13,081 cubic yards of Porto Bello rock were unloaded and placed in the breakwater. The total amount unloaded and placed to April 30, 1914, was 455,101 cubic yards. One thousand one hundred and forty linear feet of breakwater were completed during the month, making the total length completed to April 30th, 10,641 linear feet, including the ell.

East breakwater—Work on the east breakwater included the completion of 900 linear feet of trestle, making a total of 1,532 feet; track work, and pile driving. Seven thousand two hundred and twenty-eight cubic yards of rock fill were received from the Mount Hope borrow pit.

LANDSCAPE ARCHITECT.

Work was continued on plans and construction at the new Balboa townsite. Work completed amounted to 10,807 cubic yards excavation; backfill, 3,160 cubic yards; pavement completed, 9,070 square yards; gutters laid, 2,224 linear feet; sewer pipe laid, 4,977 linear feet; water pipe placed, 4,658 linear feet.

RADIO STATIONS.

At Caimito, foundations for tower No. 1 were in readiness for erection of steel work. Foundation work for the other towers, and provision for carrying away surface water from all tower foundations were advanced. At the Colon and Balboa radio stations, work requests were issued for the greater part of the construction work required. Plans and allotments have been received from the Bureau of Yards and Docks.

Division of Erection.

This division, formerly called the Electrical and Mechanical Subdivision, has carried on the erection and inspection of operating machinery and electrical equipment in the locks, spillways, lock gates, fenders, lock entrance caisson, and pontoon bridge for the crossing of the Canal at Paraiso.

LOCKS.

Seven lockages were made at Gatun, six at Pedro Miguel, and nine at Miraflores.

The miter gate forcing machines, the rising stem, cylindrical, and auxiliary valves, and the machines to operate them, are completely installed, track installation is practically completed, and only a small amount of work remains in connection with the illumination of the locks.

All of the 18 guard valve machines have been received, mechanical installation is 98 per cent, and electrical installation 43 per cent completed. Mechanical installation of the miter gate moving machines is completed, and 98 per cent of the electrical installation is complete.

Mechanical erection of the chain fender machines at Gatun is 50 per cent complete; Pedro Miguel, 47 per cent; and Miraflores, 24 per cent. Electrical installation is nine per cent complete at Gatun. Four sections of chain have been received; five sections are about completed.

Pumps—Pumps and motors, with float switches and starters, have been received complete. Mechanical erection is 100 per cent complete on miter gate sump pumps, drainage sump pumps, and culvert pumps; and 54 per cent complete on chain fender sump pumps. Electrical installation is 98 per cent complete on miter gate sump pumps, 100 per cent on drainage sump pumps, 20 per cent on culvert sump pumps, and three per cent on chain fender sump pumps.

Transformer room equipment—The installation of all transformer rooms at all locks is approximately 94 per cent complete.

Control apparatus—The houses for the control apparatus are practically complete, and practically all of the apparatus has been received. The Miraflores board is about 70 per cent complete.

HYDROELECTRIC STATION.

The installation of generators, exciters, main control board, oil switches, and other apparatus is about 95 per cent completed.

SPILLWAYS.

Three of the 14 spillway gates at Gatun were operated satisfactorily, with the lake at approximately 85 feet above sealevel.

All the gate machines have been received, installation at Gatun is complete, and at Miraflores, all mechanical installation, and 80 per cent of the electrical are complete.

TRANSMISSION LINE.

A total of nine and one-half foundations, involving approximately 159 cubic yards of concrete, were placed during the month. Thirty-two track-span bridges were placed on permanent foundations during the month, bringing the total to date to 807. Work on the track-span bridges is completed between Mount Hope and Balboa, with the exception of two or three structures upon which completion is prevented by local conditions. Stringing of wire was continued during the month, the power wire from Mount Hope to Diablo being completed, with the exception of about a quarter of a mile. The stringing of ground wire practically keeps pace with the stringing of power wire, 30 miles of ground wire and 40 mile of power wire having been strung to date. On Sunday, April 26, the west line from mile post 40 to Miraflores was cut into service at 11,000 volts, to supply the relay pump load at Cucaracha, eliminating the present 11,000-volt pole line south of Pedro Miguel. The east line from Gatun to Mount Hope was also cut into service temporarily at 2,200 volts on April 22, to supply additional load at Cristobal. These services are temporary, until the 44,000-volt lines can be operated.

Electrical Division.

Power plants—The net output of the power plants was: Gatun, 550,279 kilowatt-hours; Miraflores, 1,702,400 kilowatt-hours; Balboa, 6,621 kilowatt-hours. At Miraflores, the work of installing the 1,500-kilowatt vertical turbogenerator set from Gatun was continued and almost completed. The rated capacity of this plant is now 6,000 kilowatts.

District work—In addition to the maintenance and operation in the northern district, work was continued on the installation of the underground 2,200-volt feeder to Agua Clara pumping station, the temporary 6,600-volt transmission line from Gatun to Cristobal was put out of service and connections were made over the permanent line, and connections for the 2,200-volt service from Gatun to Mount Hope pumping plant were made on the permanent transmission line.

In the southern district, the work included, in addition to maintenance and operation, underground conduit construction, line work, and wiring in the new administration building and other permanent structures.

Division of Municipal Engineering.

In the northern district, the usual maintenance work was continued. In the southern district, the extension of water and sewer lines at La Boca, and the installation of fire protection service at Balboa shops were advanced; and at Pedro Miguel, the construction of roads was completed, and the work of grading and installing water and sewer systems was continued.

In the construction of the new waterworks to supply Panama and the Pacific terminus of the Canal, work was continued on the Miraflores filtration plant and the pump station at Ancon, and was completed on the high service reservoir at Ancon.

Division of Lighthouses.

Work has been in progress completing the construction of towers Nos. 22 and 28, Gatun Lake section; moving forms, tools, etc., to Gatun; handling spar buoys from Panama railroad dock at Gatun to machine shop, preparatory to painting; constructing and painting beacons in the Culebra Cut section; running pole lines on east and west sides of the Canal between Bas Obispo and Pedro Miguel; recharging gas buoys in the Pacific entrance; making surveys at the site of the proposed dock at Gamboa, and other necessary surveys and reconnaissances.

No work was accomplished during the month in connection with raising of caisson for the west breakwater light in Colon harbor. This work will be taken in hand as soon as weather conditions permit.

1914

NORTHERN DISTRICT.

The northern district covers that part of the Canal Zone lying north of Darien and includes the city of Colon, and all the municipal work in this district with the exception of the operation of the water purification plants is in charge of Superintendent E. H. Chandler, reporting direct to the municipal engineer.

During the year the usual maintenance and repair work was performed on the water and sewer systems and on the roads and streets in this district.

In connection with the maintenance work on the water and sewer systems, a monthly inspection and test of all fire hydrants and valves was made and the sewer systems were flushed at frequent intervals.

No extensive repairs were made to the roads during the year, but the roads and streets were maintained and kept in good condition and were resurfaced as this became necessary in certain sections.

The two reservoirs in this district were maintained, each being in charge of a custodian who has authority of a police officer for the purpose of preventing trespassing on the water shed of the reservoirs. In addition to the usual duties of the position, the custodians kept daily record of the rainfall at their respective stations and reported same to the Meteorological section.

There were four pumping stations operated by the division in this district in connection with the water supply, and the results of the operations for the year are as given in the following statement:

Station.	Average number of gallons pumped per month.	Period.
Mount Hope	112,219,000	July 1, 1914, to June 30, 1915.
Agua Clara (Gatun)	26,908,000	Do.
Monte Lirio	1,369,800	Oct. 1, 1914, to June 30, 1915.
Frijoles	220,259	Do.

The maintenance work in the city of Colon was performed as usual by the municipal division and the cost of same paid for from water rentals. This work included the usual maintenance and repair work on the streets and on the water and sewer systems, including the operation of the sewage pumping station. All private water connections in the city of Colon are metered and the municipal division had charge of the installation and care of these meters as well as the work of reading the meters and preparing the quarterly water rent bills and the collection of the water rentals. The following tables give information regarding the water consumption and the water rental collections in the city of Colon.

Quarter ending—	Number of bills.	Amount of bills.	Consumption.
			Gallons.
Sept. 30, 1914	943	$26,160.50	135,413,375
Dec. 31, 1914	952	24,387.30	153,574,075
Mar. 31, 1915	953	24,853.10	165,729,125
June 30, 1915	955	22,363.20	179,444,150

Two hundred and fifty-nine buildings in the city of Colon were destroyed by fire on April 30, 1915, among them being those used by the municipal division for an office and shop and for the sewage pumping station. These latter buildings were replaced by new ones and same were occupied within about six weeks from the date of the fire. The cost of these new buildings was charged to the balance remaining from the $800,000 appropriation for sanitation in Panama and Colon. The burning of such a large number of buildings caused a considerable reduction in the amount of the water rent bills for the quarter in which the fire occurred, as indicated by the above tables. There was no great reduction, however, in the total consumption of water, as the inhabitants of that part of the city that was burned were quartered at various points in tents and arrangements were made for furnishing them with necessary water during the last two months of the fiscal year without charge. The extra cost of all additional maintenance work due to the fire was charged to the regular maintenance account paid from water rentals.

1915

Balboa to Diablo Hill, $34,452.44; resurfacing Paraiso-Gamboa road, $22,713.22; roads, streets, sidewalks, etc., Fort Sherman, $9,881.25; Calidonia bridge crossing, $36,594.87; miscellaneous municipal work for United States Army, $39,659.61; miscellaneous municipal work for United States Navy, $38,446.18; development of block 54 in Colon, $38,537.43; road from cold-storage plant, Mount Hope, $39,150.11; extension of road to Pier 6, $12,779.63; miscellaneous municipal work for the Panama Canal departments and Panama Railroad, $159,893.22; outsiders, $20,232.43; municipal engineering work, New Cristobal, $91,488.44; and municipal work between Seventh and Ninth and G and K Streets, Colon, $115,685.67.

The supplying of water and the maintenance of sewer systems and streets in the cities of Panama and Colon was continued. The total expenditures in these two cities for routine maintenance work was $184,453.92. Work was continued on enlargement of storm sewer drains in the city of Panama, $112,177.84 being spent.

The total number of gallons of water pumped at the various pumping stations was as follows: Gamboa, 3,895,630,000; Miraflores, 423,790,000; Balboa, 2,790,202,000; Paraiso, 74,640,000; Cucaracha, 176,513,000; Mount Hope, 2,157,686,000; Agua Clara, 427,714,000; Frijoles, 11,620,000; and Monte Lirio, 3,264,000. The divisional cost of water delivered in the several districts was as follows per 1,000 gallons: Ancon-Balboa, $0.07; Miraflores, $0.06; Pedro Miguel, $0.07; Paraiso, $0.07; Gamboa, $0.08; Gatun, $0.14; and Cristobal, $0.07. These costs include filtration, analysis, and treatment. The sales of water to vessels were as follows: Cristobal, 2,215 vessels, 110,825,282 gallons; Balboa, 1,438 vessels, 35,289,250 gallons. The water consumption in the city of Panama for the year was 1,026,440,000 gallons, and in Colon the consumption was 625,371,800 gallons.

For further details of municipal engineering work see report of the municipal engineer, Appendix A.

Meteorology and Hydrography.

The section continued in the charge of Mr. R. Z. Kirkpatrick, chief hydrographer, reporting to the engineer of maintenance. All of the meteorological stations as reported for last year have been continued in operation and additional stations were established as follows: A standard rain gauge was installed at La Palma in December, 1919, operated by the naval radio station at that point; at Divala, Province of Chiriqui; Mariato, Province of Veraguas; and at Mandinga Bay, Province of Colon, all in the Republic of Panama, during the dry season of 1920. These stations are not operated at the expense of The Panama Canal.

For the calendar year 1919 the rainfall was below normal at all stations in the Canal Zone and vicinity, except Cape Mala, Taboga, Chilibrillo, and Bocas del Toro. The greatest deficiency was 32.14 at Brazos Brook. At most stations October was the month of heaviest rainfall and March the month of lightest rainfall. The average annual rainfall in the Pacific section was 63.39 inches; in the Central section, 79.11 inches; and in the Atlantic section 109.89 inches. The greatest precipitation recorded in any one day was 9.09 inches at Porto Bello on August 23, 1919. The four months dry season rainfall for the fiscal year 1920 is the lowest of record since American occupation

The following is a statement of water pumped at each of the pump stations during the year, giving an average monthly pumping and the average rate per 1,000 gallons:

Pumping station.	Total gallons pumped during year.	Average number of gallons per month.	Average cost per thousand gallons for pumping.
Mount Hope	2,157,686,000	179,807,166	$0.019
Agua Clara	427,714,000	35,642,000	.014
Frijoles	11,620,000	968,333	.1792
Monte Lirio	3,264,000	272,000	.5317

The following statement shows the division cost of water delivered in the various districts of the Canal Zone during the fiscal year ended June 30, 1920:

District.	Cost per thousand gallons.	District.	Cost per thousand gallons.
Cristobal	$0.07	Pedro Miguel	$0.07
Gatun	.14	Miraflores	.06
Gamboa	.08	Ancon-Balboa	.07
Paraiso	.07		

The sale of water to vessels at the docks was handled as in the past. Water was delivered to ships at the rate of 50 cents per 1,000 gallons, with a minimum charge of $3, excepting Docks No. 2 and No. 3, where the minimum charge was 50 cents, this applying to small coastwise boats. A total of 2.215 vessels was furnished with 110,825,282 gallons of water, this being an average of 9,235,440 gallons per month.

The cost for the year of handling water amounted to $11,527.81. In the city of Colon the sum of $69,055 was spent on the maintenance and repairs of streets, water and sewer system, and the cost of water collections and plumbing inspection work.

The following statement shows the quantity of water used in Colon during the fiscal year, by quarters, together with the amount of water rental:

Quarter ended —	Paying connections.	Consumption per quarter.				Total consumption.	Average daily consumption.
		Private connections.	Panama Railroad reservation.	Panama Canal hospital and quarantine.	Public fire hydrants and taps.		
		Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
Sept. 30, 1919	984	73,186,000	6,807,750	9,099,750	56,837,150	145,930,650	1,621,452
Dec. 31, 1919	987	77,739,750	8,087,000	8,451,000	67,316,575	161,594,325	1,795,492
Mar. 31, 1920	992	75,028,500	9,133,750	9,496,500	56,902,025	150,560,775	1,672,897
June 30, 1920	998	80,316,250	8,504,250	10,477,750	67,987,800	167,286,050	1,858,734
Total for year	....	306,270,500	32,532,750	37,525,000	249,013,550	625,371,800	1,737,144

Quarter ended —	Amount collected from private consumers.	Amount collected from Panama Railroad.	Amount collected from Panama Canal.	Total revenue per quarter.	Average consumption per private connection.	Average private quarterly bill.
					Gallons.	
Sept. 30, 1919	$29,166.50	$2,012.70	$2,732.70	$33,911.90	74,376	$29.64
Dec. 31, 1919	28,953.20	2,426.10	2,536.50	33,915.80	78,763	29.33
Mar. 31, 1920	30,226.80	2,740.50	2,850.00	35,817.30	75,633	30.40
June 30, 1920	32,524.80	2,551.80	3,144.90	38,221.50	80,477	32.59
Total for year	120,871.30	9,761.10	11,264.10	141,896.50	77,310	30.49

NOTE.—For quarter ended June 30, 1920:

Net amount of private bills to be collected	$32,424.80
Approximate amount of discount to be collected	100.00
Approximate amount to be collected from private consumers	32,524.80

1920

The following is a summary of the report of work performed in connection with the operation of water-purification plants during the 11 months ended May 31, 1920:

	Agua Clara.	Mount Hope.	Miraflores.
Placed in service	Dec. 29, 1911	Feb. 23, 1914	Mar. 14, 1915.
District supplied	Gatun, Toro Point	Colon, Mt. Hope, Margarita Point, Cristobal.	Pedro Miguel, Corozal, Ancon, Balboa, Panama, Paraiso.
Source of supply	Agua Clara Reservoir.	Brazos Brook Reservoir.	Chagres River.
Rated capacity, gallons per day	2,500,000	8,000,000	15,000,000.
Method of purification	Aeration, sedimentation, rapid sand filtration.	Aeration, sedimentation, rapid sand filtration.	Aeration, sedimentation, rapid sand filtration.
Aeration basin:			
Size ... feet	[1] 4 by 8	60 by 66	86 by 130.
Number of nozzles		85	105.
Sedimentation basin:			
Size ... feet	70.5 by 71	171 by 171	300 by 125.
Depth ... do	10.5	12.25	16.5.
Capacity ... gallons	350,000	2,500,000	4,500,000.
Period of sedimentation, (hours).	10	14	12.
Rapid sand filters:			
Number of units	4	6	14.
Total sand area, square feet	1,156	3,078	5,950.
Depth of filtering material—			
Sand ... inches	30	30	30.
Gravel ... do	24	22	24.
Size of filtering material:			
Sand, effective size	0.44	0.41	0.41.
Sand, uniformity coefficient	1.81	1.70	1.70.
Gravel, size ... inches	$\frac{3}{16}$ to $1\frac{3}{4}$	$\frac{1}{8}$ to $1\frac{1}{2}$	$\frac{3}{16}$ to $1\frac{3}{4}$.
Per cent of sand area covered by horizontal area of troughs.	22.3	32.0	32.8.
Washing of filters:			
Vertical rise per minute, (inches).	19	20	24.
Gallons per square foot of sand area.	12	12.5	15.
Filter bottom, type	Harrisburg, Pa	Harrisburg, Pa	Concrete false bottom.
Loss of head:			
Average initial ... feet	0.5	1.3	1.0.
Average final ... feet	6.5	12.5	11.5.
Length of filter runs, hours, yearly average.	66.8	33.3	37.4.
Volumes of water, average gallons per day:			
Raw	1,181,000	6,116,000	9,958,000.
Filtered	1,160,000	6,014,000	9,792,000.
Delivered to mains	1,139,000	5,884,000	9,512,000.
Wash water	21,000	130,000	249,000.
Per cent of wash water	1.77	2.15	2.55.
Chemicals, yearly averages:			
Alum, pounds per million gallons.	370	128	160.
Lime, pounds per million gallons.	80		
Liquid chlorine, parts per million of available chlorine.	0.323	0.356	0.374.
Physical and chemical characteristics of filtered water, parts per million:			
Color	4	0	0.
Turbidity	0	0	0.
Free carbonic acid (CO_2)	0	2.4	4.3.
Carbonate (CO_3)	0.7	0	0.
Alkalinity, erythrosine ($CaCO_3$).	18.4	38.0	49.5.
Hardness, soap ($CaCO_3$)	37.4	37.9	48.6.
Oxygen consumed	1.73	1.2	0.6.
Chlorine (Cl)	7.2	5.2	6.7.
Iron (Fe)	0.16	0.09	0.03.
Solids total	86	82	100.
Nitrogen, as—			
Nitrites (NO_2)	0.0005	0.0000	0.0002.
Nitrates (NO_3)	0.016	0.007	0.021.
Colonies of bacteria per c. c. in water from distribution in system:			
Nutrient agar at 37.5° C	88	16	15.4.
B. coli index, number per liter.	1.4	0.5	7.9.

[1] Aerator box.

1920

5. Along a line parallel with and 5.60 feet back from the curb line of the northerly side of the continuation of Fourth of July Avenue towards East Balboa, to monument #4, which is a copper plug set in the concrete roadway leading to the Truck Company barracks; direct bearing and distance, #3 to #4, S. 87°–03′ W., 1080 feet, more or less; thence,

6. N. 74°–03′ W., 505 feet, more or less, to a brass plug in concrete monument #5; thence,

7. N. 18°–09′ E., 214 feet, more or less, to a brass plug in concrete monument #6; thence,

8. Along the contour of 150 feet elevation to a brass plug in concrete monument #7; direct bearing and distance, #6 to #7, N. 3°–27′ W., 867 feet, more or less; thence,

9. Along the contour of 150 feet elevation to a brass plug in concrete monument #8; direct bearing and distance, #7 to #8, N. 48°–21′ W., 569 feet, more or less; thence,

10. Along the contour of 150 feet elevation to a brass plug in concrete monument #9; direct bearing and distance, #8 to #9, N. 39°–36′ E., 971 feet, more or less; thence,

11. S. 75°–58′ E., 861 feet, more or less, to the point of beginning.

All bearings refer to the true meridian.

WOODROW WILSON.

THE WHITE HOUSE,
22 December, 1919.

[No. 3202.]

EXECUTIVE ORDER.

The area of land hereinafter described, to be known as Fort William D. Davis Reservation, consisting of two parcels, situated in the Canal Zone, is hereby set apart and assigned to the uses and purposes of a military reservation, under the jurisdiction of the Secretary of War; but said area shall be subject to the civil control and jurisdiction of the Governor of the Panama Canal in conformity with the Panama Canal Act.

The boundaries of said reservation are described as follows:

The boundary of the first parcel (east of the Panama Railroad) begins at a copper plug, set in the east curb of the New Gatun road, 100 feet easterly from center line of the Panama Railroad, the coordinates of whose position are Lat. 9°–16′ plus 4519.0 feet, Long. 79°–55′ plus 207.7 feet; thence,

1. Northeasterly along a road to an iron rail monument, at intersection of two roads, in Lat. 9°–16′ plus 4661.3 feet, Long. 79°–54′ plus 5819.2 feet; thence,

2. N. 20°–25′ W., 232.4 feet, along a road to a 1½″ g. i. pipe monument, in Lat. 9°–16′ plus 4879.0 feet, Long. 79°–54′ plus 5900.3 feet; thence,

3. Northeasterly along a road to a 1½″ g. i. pipe monument, on west side of road, in Lat. 9°–16′ plus 5028.0 feet, Long. 79°–54′ plus 5522.0 feet; thence,

4. Easterly along a line parallel with and 100 feet northerly from spur track to Agua Clara Reservoir to a 1½″ g. i. pipe monument, at intersection with Agua Clara boundary, in Lat. 9°–16′ plus 4733.5 feet, Long. 79°–54′ plus 4806.6 feet; thence,

5. N. 49°–54′ E., 2044.0 feet along Agua Clara Reservoir boundary to a monument, in Lat. 9°–17′ plus 2.6 feet, Long. 79°–54′ plus 3243.1 feet; thence,

6. N. 50°–41′ E., 542.6 feet, to a monument, on the boundary of Agua Clara Reservoir, in Lat. 9°–17′ plus 356.4 feet, Long. 79°–54′ plus 2823.2 feet; thence,

7. S. 87°–57′ E., 2517.8 feet, to a monument, on the boundary of Agua Clara Reservoir, in Lat. 9°–17′ plus 266.2 feet, Long. 79°–54′ plus 307.0 feet; thence,

8. S. 87°–10′ E., 1873.3 feet, to a monument, on the boundary of Agua Clara Reservoir, in Lat. 9°–17′ plus 173.6 feet, Long. 79°–53′ plus 4443.9 feet; thence,

9. S. 87°–48′ E., 719.8 feet, to a monument, on the boundary of Agua Clara Reservoir, in Lat. 9°–17′ plus 146.0 feet, Long. 79°–53′ plus 3724.6 feet; thence,

10. S. 87°–38′ E., 478.9 feet, to a monument, on the boundary of Agua Clara Reservoir, in Lat. 9°–17′ plus 126.2 feet, Long. 79°–53′ plus 3246.1 feet; thence,

11. S. 87°–25′ E., 1394.0 feet, to a 1½″ g. i. pipe monument, 100 feet west of Panama Railroad track and opposite transmission tower 10-5, in Lat. 9°–17′ plus 63.2 feet, Long. 79°–53′ plus 1853.5 feet; thence,

12. Northerly and easterly along a line parallel with and 100 feet distant from Panama Railroad track, to the shore of Gatun Lake; thence,

13. Northerly along the shore of said lake to a 1½″ g. i. pipe monument, in Lat. 9°–17′ plus 4789.3 feet, Long. 79°–52′ plus 4765.5 feet; thence,

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WATER SYSTEM

Consumption of water for municipal uses and for sales to vessels during the past three fiscal years was as follows:

[Thousands of gallons]

	Fiscal year		
	1944	1943	1942
Canal Zone	7,919,237	7,980,664	6,568,126
City of Panama	2,909,916	2,666,519	2,432,916
City of Colon	1,388,098	1,191,134	1,014,392
Sales to vessels	230,744	201,627	193,650
Total	12,447,995	12,039,944	10,209,084

The following statement shows the quantity of water pumped at each of the pumping stations during the year, the average per month, and the cost of pumping per thousand gallons:

[Thousands of gallons]

	Total gallons pumped during year	Average gallons per month	Average cost per 1,000 gallons for pumping
Gamboa (intake) [1]	3,108,495	259,041	$0.0175
Miraflores (relay)	3,366,333	280,528	.0141
Balboa (relay)	4,163,018	346,918	.0118
Paraiso (intake) [1]	4,972,578	414,382	.0125
Paraiso (relay)	219,190	18,265	.0299
Mount Hope (intake)	3,999,899	333,325	.0107
Agua Clara (intake) [2]	452,266	45,226	.0815
Monte Lirio (intake)	1,138	95	.5980
Frijoles (intake)	3,907	326	.3755
Madden Dam (intake)	17,916	1,493	----------
Total	20,304,740	1,699,599	----------

[1] Owing to a break in the raw water line near Summit, the main source of raw water for the last half of the year was the Canal at Paraiso.
[2] Agua Clara filtration plant was discontinued on Apr. 15, 1944, at which time the pumping plant was also shut down.

The usual maintenance work was performed on the pipe lines, reservoirs, filtration plants, and pumping stations during the year. In addition, regular maintenance work was performed on a number of special projects.

EXPANSION OF WATER SUPPLY FACILITIES

Work on the expansion of water supply facilities as described in the previous annual reports was brought to completion during 1944, at a total cost of a little more than $4,000,000, financed jointly by The Panama Canal, the United States Army, and the United States Navy. The enlarged system increases the rated water capacity from 15,500,000 to 23,000,000 gallons per day on the Pacific side, and from 10,500,000 to 14,400,000 gallons per day on the Atlantic side.



Polish, Italian, French and Mexican workers at the Packard plants in Chicago and Detroit were surprised and pleased when comely globe-trotting Congresswoman Clare Booth Luce, of Connecticut, recently chatted with them in their own languages, during a recent fact-finding tour by House Committee on Military Affairs. She's pictured talking to Charles Turner, Purple Heart war veteran now an aircraft engine worker.

LONDON, Feb. 16 (UP) — Two new earthquakes were recorded about 150 kilometers northwest of Ankara, Turkey, Radio Vichy said today.



Agua Clara Plant To Be Abandoned, Operated 30 Years

With the installation of the 30-inch duplicate raw water main from Gatun Lake to Mount Hope Filtration Plant completed, Agua Clara Filtration Plant, which has been in service for more than 30 years, will soon be abandoned, it was announced Tuesday at the Municipal Engineering Division offices.

Installation of the new raw water main brings the Mount Hope plant up to full filter capacity of 14,000,000 gallons daily, sufficient to meet consumption of all Atlantic side communities, it was stated.

Nearly three miles of cast iron pipe were installed. The new main duplicates a line already furnishing the Mount Hope Filter Plant. Installation of the main involved the construction of a low-level intake structure. Since the intake structure was located directly behind a hill from the line of the main a tunnel, approximately 480 feet long, was constructed through the hill. In addition to the excavation for the tunnel, which was cut six by eight feet to give access to the main, approximately 1,200 cubic feet of other excavation was done along the line.

Installation of the main was one phase of a general improvement of the water system on the Atlantic side. The filter capacity of the Mount Hope plant has been greatly expanded and after the Agua Clara plant is abandoned all Atlantic side communities will be serviced from Mount Hope. For many years Gatun and Fort Sherman were serviced from Agua Clara.

The Agua Clara Filtration Plant was completed in 1911. A year earlier a pumping station has been completed at Agua Clara to furnish Gatun with raw water from the Agua Clara reservoir. Prior to that time Gatun had been serviced with a temporary water system from a pump station located on Gatuncillo River.

The existing filter plant at Agua Clara will be held in reserve for use in case of an emergency.

U. S. To Make Surveys Of Raw Material Imports

WASHINGTON, Feb. 16 — (UP) — The United States Tariff Commission is preparing surveys of 50 industries to determine the effect of post-war imports of basic raw materials on industrial competition for domestic world markets, it was learned today.

The surveys are being made at the request of the House Ways and Means Committee and will form the basis for general post-war U. S. commercial policy, and decide whether such imports should be subject to tariffs or should be included under reciprocal trade agreements.

After the committee studies production costs, transportation and other factors regarding tariffs, it will formulate legislation designed to aid U. S. producers who might meet post-war competition from Great Britain and other nations.

It has been reported that the study of the aluminum industry will be particularly important, and will include problems of the acquisition of raw materials as well as post-war competition for domestic markets from new sources.

The surveys will consider government policy of creating large stockpiles and their effect on the production of basic commodities. A preliminary analysis on raw wools already has been issued. All the surveys will be completed this year.

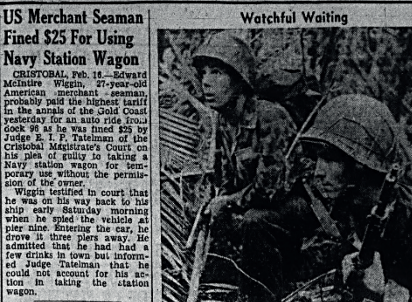
US Merchant Seaman Fined $25 For Using Navy Station Wagon

CRISTOBAL, Feb. 16.—Edward McIntire Wiggin, 27-year-old American merchant seaman, probably paid the highest tariff in the annals of the Gold Coast yesterday for an auto ride from dock 96 as he was fined $25 by Judge E. I. P. Tatelman of the Cristobal Magistrate's Court on his plea of guilty to taking a Navy station wagon for temporary use without the permission of the owner.

Wiggin testified in court that he was on his way back to his ship early Saturday morning when he spied the vehicle at pier nine. Entering the car, he drove it three piers away. He admitted that he had had a few drinks in town but informed Judge Tatelman that he could not account for his action in taking the station wagon.

Food is called "tucker" by the Anzacs.

Watchful Waiting



(Marine Corps Photo From NEA)

Surrounded by jungle, where visibility is limited to a few feet, two Marines of a mop-up patrol on Cape Torokina, Bougainville Island, watch and wait for Japs. One keeps eyes peeled aloft for snipers in the tree-tops, the other is alert for movement on the ground.

2 Americans Held For Photographing Navy Seaplane

CRISTOBAL, Feb. 16.—What started out as a day of fun on the Atlantic side ended in near tragedy for two American employees of the Mechanical Division at Balboa as Andrew Ray Darling and Rex G. Victor Sellens, both 27, were arrested Sunday afternoon by traffic officer George F. Nadeau for taking pictures of a navy seaplane in flight over Manzanillo Bay. The two Gold Coast visitors were first noticed by officer Nadeau as he approached the intersection of Bolivar Avenue and Boundary Street on his motorcycle. As he was passing Nadeau saw a car parked about one hundred feet in from the main highway and one of the men, who later proved to be Sellens, with a camera. Turning back, the officer returned to Boundary street where both men had their cameras in action.

Taken to the Cristobal police station, the film in each of the cameras was developed. Each of the rolls revealed three shots of the Navy plane in the air. The men were booked for violating the regulations governing photographing in the Canal Zone.

Brought before Judge E. I. P. Tatelman of the Cristobal magistrate's court yesterday, Sellens and Darling were, after their preliminary hearing, ordered to stand trial in the district court under bail of $100 each. The government offered the cameras and the negatives of the plane over Manzanillo Bay in evidence during the hearing. Darling made no statements at all when asked by Judge Tatelman if he wished to speak while Sellens offered the facts that although ignorance of the law was no excuse, neither he nor his friend realized that they had done anything wrong in taking the pictures in question. The government emphasized the fact that there was definitely no thought of incriminating the men in anything that might be considered subversive when this question was put before the court by the defendants.

Darling has been employed by the Mechanical Division for some eighteen months while Sellens has been working for eight months although it is his third tour of duty here on the Isthmus. Both defendants were released late in the day as they posted their bail bond.

FIRING NOTICE

Two positions on the Atlantic Side of the Isthmus will fire anti-aircraft guns between February 15th and 19th, it was announced yesterday at Headquarters, Panama Canal Department, Quarry Heights.

One position at Fort Randolph will fire between 8 a.m. and noon on February 15th and 16th. The danger area will be bounded on the left by a line due west from Toro Point; on the right by a line northeast from Galeta Island, and seaward 20,000 yards.

The other firing will be held from Fort Sherman between 8 a.m. and noon on February 17th, 18th and 19th. The danger area will be bounded on the left by a line west from Naranjitos Point; on the right by a line northeast from Toro Point, and seaward 20,000 yards.

Practice firing of coastal defense guns will be held from five positions on the Isthmus —one on the Atlantic Side and four on the Pacific — beginning Feb. 17th, it was announced yesterday at Headquarters of the Panama Canal Department, Quarry Heights.

The Atlantic Side firing will take place from Fort Sherman on Feb. 17th and 19th from 1 p.m. to 4:30 p.m. The danger area will be bound on the left by a northwest line from Naranjitos Point; on the right by a line due north from East Breakwater Light, and seaward 10,000 yards.

The four Pacific Side firings will be held on Feb. 17th, 18th and 19th. The first — from Taboga Island — will be from 1 p.m. to 4 p.m. daily. The danger area will be bound on the left by a line southeast from Taboga; on the right by a northwest line from the Island, and seaward 20,000 yards. Firing from Bruja Point will take place between the hours of 1 p.m. and 4 p.m. The danger area on the left will be bound by a line to Taboga Island; on the right by a line to Verde Island, and seaward 20,000 yards.

From Taboguilla Island firing also will be held from 1 p.m. to 4 p.m. The danger area will be bound on the left by a line to Flamenco Island; on the right by a line to Urava Island; and seaward 20,000 yards. The last firing will be from Flamenco Island from 1 p.m. to 2:30 p.m. The danger area will be bound on the left by a line to Paitilla Point; on the right by a line to Taboguilla Island, and seaward 20,000 yards.

Promotions of six enlisted men stationed at Quarry Heights were announced yesterday by Army officials. They are:

Master Sergeant Roy Heinrich from staff sergeant; Technical Sergeant Gerald L. Knight from staff sergeant; Staff Sergeant Orval T. Krasen from sergeant; Sergeants Gerald D. McGregor and Maynard L. Thompson from corporal, and Sergeant Domingo P. Boneta from private.

Two-thirds of the mercury output of the United States comes from California.

National Brewery Names New Officers At Lengthy Meeting

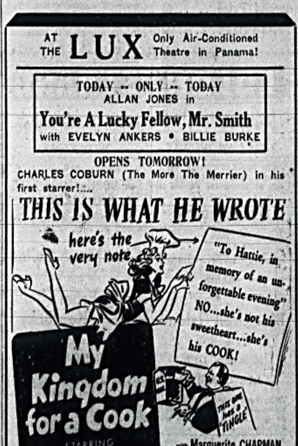
Tomas Gabriel Duque Mon. night was elected president of the National Brewery at a stockholders' meeting which lasted until 2:30 a.m. The other officers are: Enrique Linares, vice president, Dr. J. J. Vallarino, treasurer, and Edwardo de Alba secretary. The Directors are the four officers and Mrs. Louise de Jan, Morris Fidanque, Ernesto de la Guardia Jr., Luis Herbruger and Raul Espinosa.

Ernesto de la Guardia Jr. was named General Manager with Robert M. McGrath as assistant manager and P. C. Hulfebosch, manager in Colon.

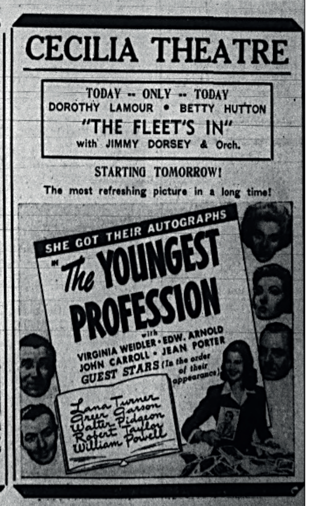
Members of the Vigilance Committee are John E. Westman and James M. Cartrow with Roberto M. Heurtematte and Felix Duque as alternates.

Alternates for the Board of Directors are Mr. McGrath, Alejandro Duque, Dr. Harry Strunz, Raymond Toledano, Mr. Hulfebosch, Ricardo Arias Espinosa, Mr. Herbruger and Charles Acree.









Colección Hallen

Ernest "Red" Hallen fue un fotógrafo estadounidense reconocido por documentar la construcción, el desarrollo y las operaciones del Canal de Panamá. Su trabajo abarcó tres décadas, desde 1907 hasta 1937, lo que lo convierte en una de las figuras más influyentes en la preservación visual de la historia de esta obra monumental.

C. Fotos históricas de 1910 a 1916



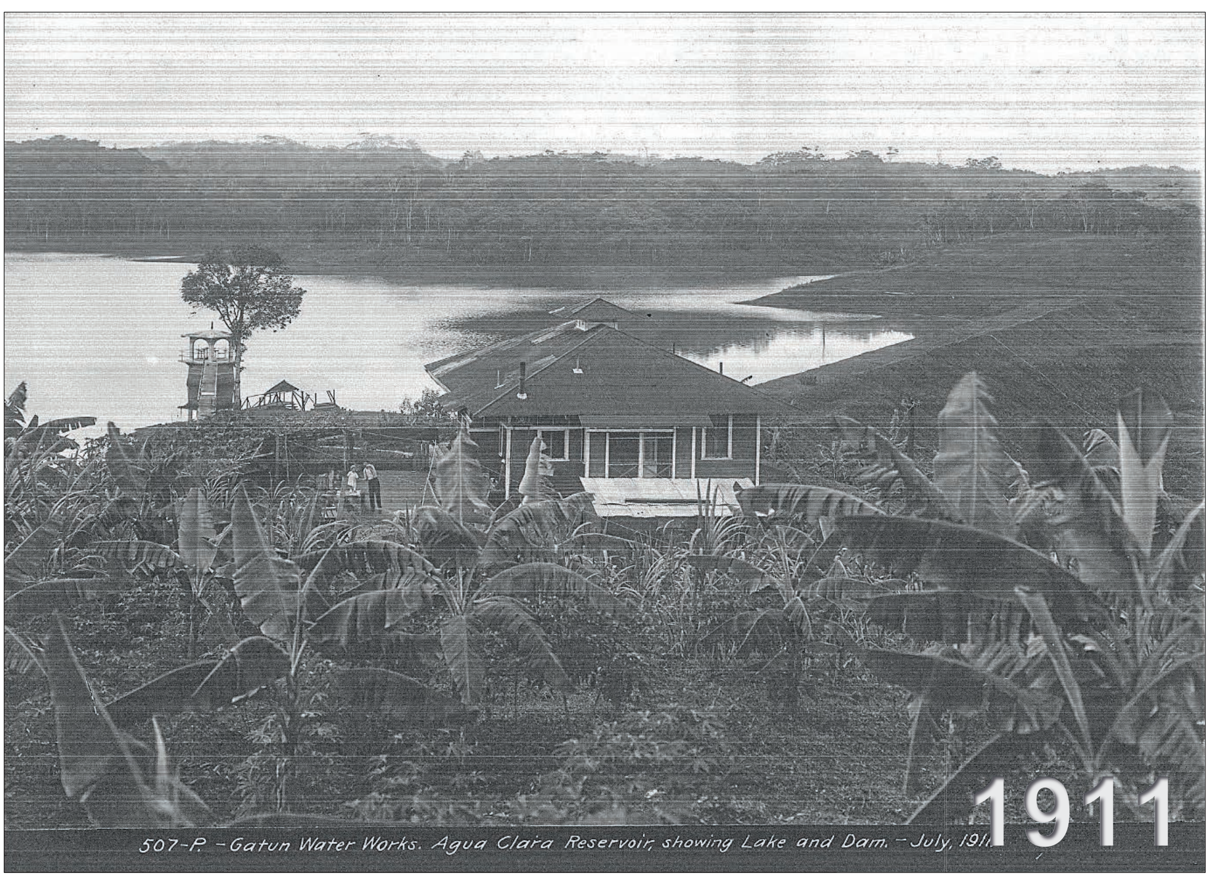
507-I. - Agua Clara Reservoir Dam nearly completed. - Gatun, July, 1910.



50[illegible]. - The Agua Clara Reservoir, Gatun. - July, 1910.



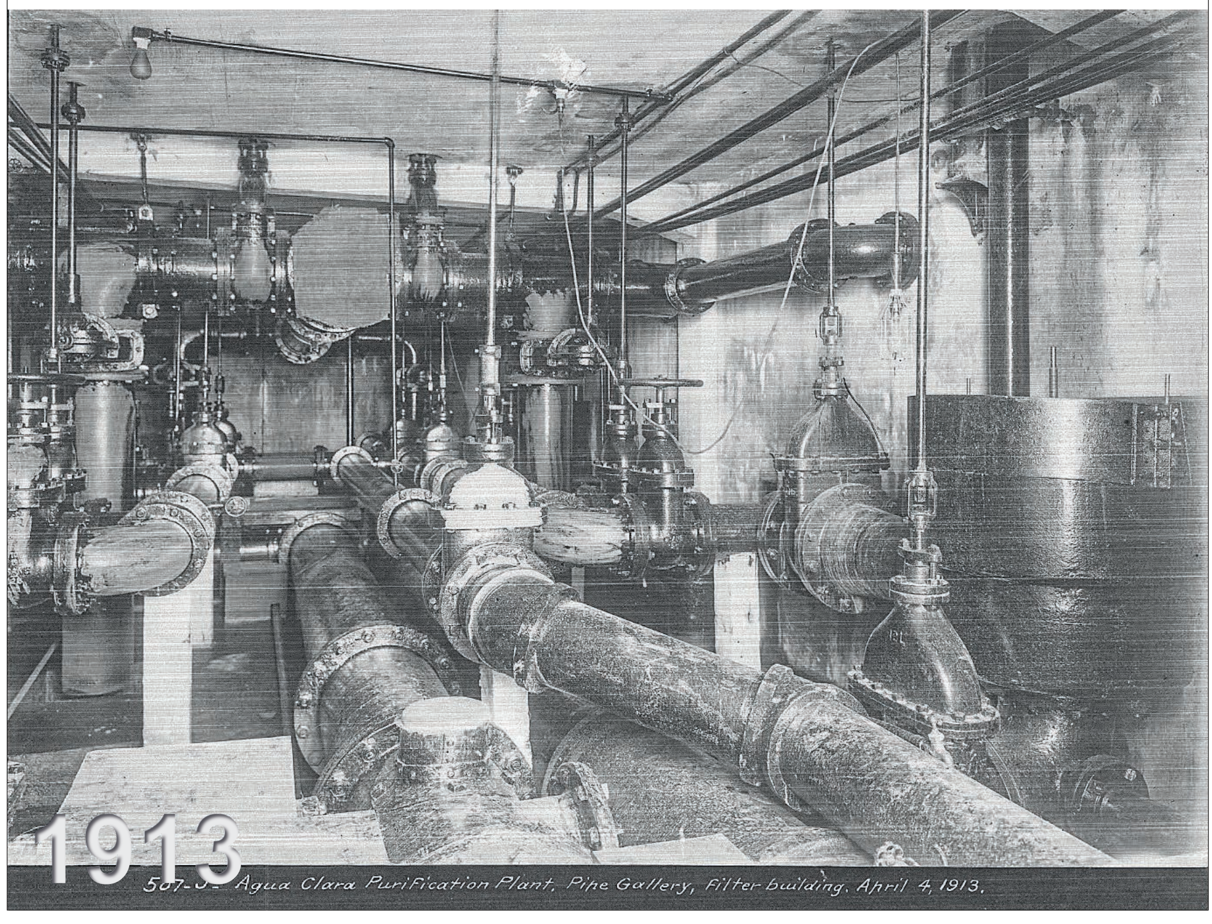
507-O. – Gatun Water Works. Showing Pump Station, Filter Building, Sedimentation Basins, and Clear Water Basin forming the Water Purification Plant for Gatun. – July, 1911.



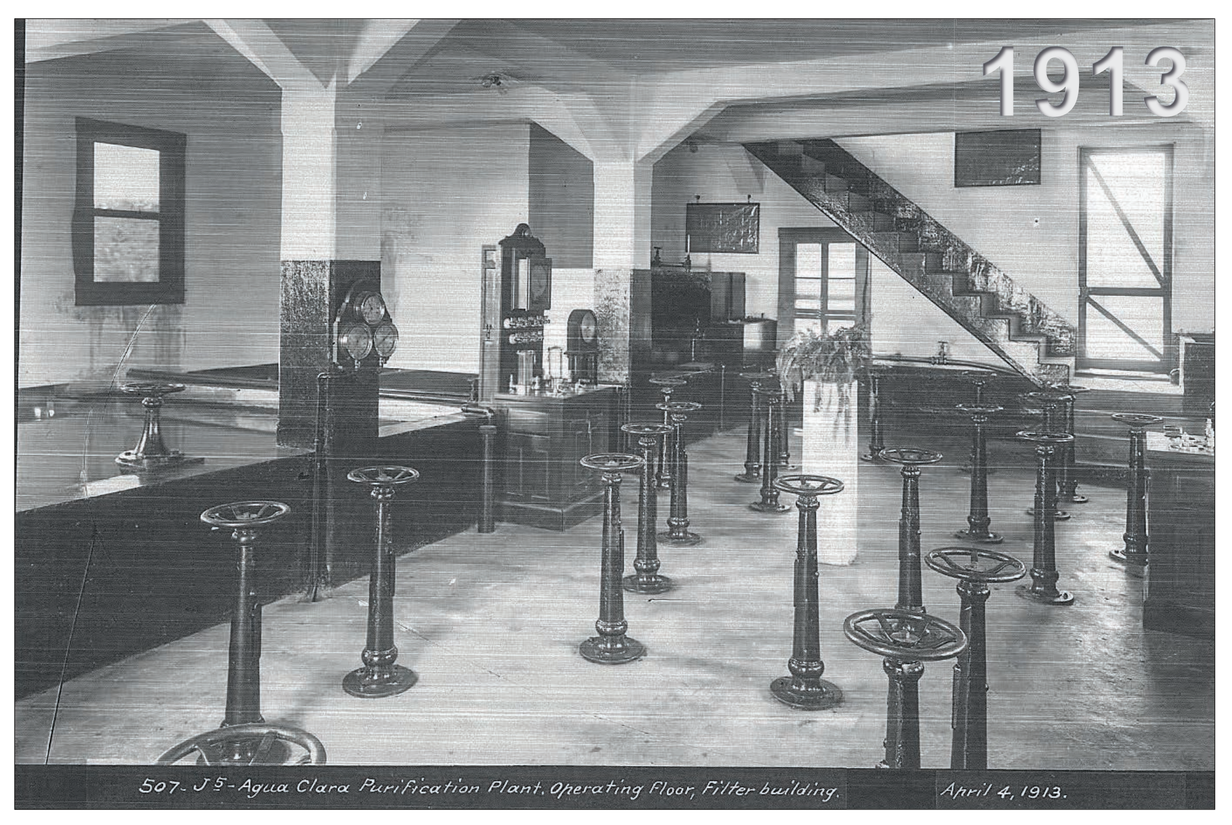
507-P. – Gatun Water Works. Agua Clara Reservoir, showing Lake and Dam. – July, 1911.



507-J² Agua Clara Purification Plant. General View, looking West. April 4, 1913.



507-J- Agua Clara Purification Plant. Pipe Gallery, Filter building. April 4, 1913.


1913
507-J5-Agua Clara Purification Plant. Operating Floor, Filter building. April 4, 1913.


1916
507-J-6- Gatun Purification Plant - Agua Clara. Nov. 1916.

Fotos por el autor

Captadas como responsable (2021-2022) de las actividades relacionadas con la captura, organización, preservación, y difusión de materiales y servicios audiovisuales de la memoria histórica del Canal de Panamá a nivel institucional, gubernamental e internacional.

D. Imágenes - 17 de marzo de 2022


GATUN
WATER WORKS
FEB.1910.
296


GATUN
WATER WORKS
FEB.1910.


GATUN
WATER WORKS
FEB.1910.




NO







V. Conclusiones y recomendaciones

A. Conclusiones

1. La Antigua Planta Potabilizadora de Agua Clara es un verdadero tesoro histórico del Canal de Panamá pues representa un hito en la ingeniería de su época. Construida a principios del siglo XX (1910), fue diseñada para proveer agua potable a los trabajadores y residentes del poblado de Gatún, las esclusas y sus alrededores. Su arquitectura y diseño no solo reflejan la funcionalidad de aquellos años, sino también el estilo característico de la infraestructura necesaria para el funcionamiento de lo que sería el futuro Canal de Panamá (1914) y clave del desarrollo sanitario de la época.
2. La planta es un testimonio vivo de la historia social y laboral vinculada al Canal. Sus instalaciones no solo abastecieron de agua a las poblaciones del lado Atlántico, sino que también formaron parte del día a día de miles de personas que vivieron y trabajaron en la zona canalera durante décadas. Preservar este sitio no solo significa resguardar su valor histórico, sino también mantener viva la memoria de las comunidades y obras de ingeniería que crecieron a su alrededor, reflejando la vida de quienes contribuyeron a la construcción de esta gran obra.
3. La restauración y promoción turística de la antigua planta puede generar un impacto positivo en el turismo histórico-cultural del Canal y la República de Panamá. Iniciativas como esta no solo atraerían visitantes interesados en la historia y la ingeniería del Canal, sino que también fomentarían la conciencia sobre la importancia de conservar el patrimonio, asegurando que las próximas generaciones conozcan y valoren los esfuerzos de la construcción del canal y logros a finales del siglo XIX e inicios del XX.
4. Hasta el año 2022, la Antigua Planta Potabilizadora de Agua Clara está en total desuso, abandono y deterioro. Peor aún, sujeta a una orden de demolición vigente desde hace décadas. La preservación de este sitio no es solo una cuestión de conservación material, sino también un acto de memoria y homenaje a aquellos que, con su esfuerzo y dedicación, dejaron una huella indeleble en la historia de suministro de agua potable, en calidad y cantidad del Canal de Panamá.
5. Los ejemplos presentados en este libro, de gran valor histórico y cultural, localizados en las cercanías de los centros de visitantes de Agua Clara y Miraflores, bajo administración panameña del Canal, revela un patrón preocupante de abandono progresivo, destrucción, demolición, venta de bienes “excedentes”, falta de protección legal, acceso restringido al público y ninguna promoción turística.

B. Recomendaciones

1. Suspender la orden de demolición: Detener cualquier acción que conlleve la pérdida irreversible de este valioso patrimonio histórico. El Canal, junto con las entidades competentes del Gobierno, deben revaluar el significado cultural, arquitectónico e histórico de los edificios aún en pie. Además, consultar con especialistas en conservación e iniciar un proceso formal de restauración y preservación del sitio.
2. Declarar la planta como Patrimonio Histórico Nacional bajo la protección del Ministerio de Cultura: La Antigua Planta Potabilizadora de Agua Clara reúne los méritos necesarios para ser reconocida como bien patrimonial, debido a su valor arquitectónico, histórico, técnico, educativo, cultural, turístico, ambiental y social. Se insta al Ministerio de Cultura a iniciar el procedimiento legal para su declaratoria como Monumento Histórico Nacional, lo que le otorgaría protección jurídica y abriría oportunidades de conservación financiada y colaborativa.
3. Integrar el sitio al circuito turístico-cultural y educativo del Centro de Visitantes de Agua Clara: La planta debe incorporarse como punto clave en un recorrido interpretativo del Canal de Panamá en la región atlántica, destacando su papel en el abastecimiento de agua potable a las comunidades y trabajadores del Canal a inicios del siglo XX. Esta integración puede tomar la forma de museo, centro de interpretación o sitio de memoria histórica, promoviendo el turismo cultural sostenible y fortaleciendo la educación patrimonial de visitantes nacionales e internacionales.
4. Fomentar alianzas interinstitucionales para su restauración y puesta en valor integral: Es fundamental establecer una mesa de trabajo entre el Canal de Panamá, el Ministerio de Cultura, universidades, asociaciones profesionales (como la SPIA), organismos internacionales como ICOMOS Panamá, museos, la Autoridad de Turismo de Panamá y representantes de la comunidad local. El objetivo sería desarrollar un plan maestro que garantice su recuperación, puesta en valor y sostenibilidad económica, basado en criterios técnicos y patrimoniales.
5. Impulsar campañas educativas para rescatar la memoria histórica canalera: Diseñar e implementar programas participativos que involucren a las comunidades aledañas, ex trabajadores del Canal de Panamá, centros educativos, medios de comunicación y a la sociedad civil en general. A través de testimonios, fotografías antiguas, relatos orales y documentos históricos, se puede preservar y divulgar la memoria viva de esta infraestructura, reconociendo el esfuerzo humano detrás de su construcción y operación, y garantizando su legado para las futuras generaciones.

Epílogo

Al llegar al final de esta obra, siento la necesidad de compartir con ustedes la razón detrás de mi decisión de apartarme de los enfoques tradicionales y los formatos preestablecidos que suelen regir publicaciones de este tipo. Mi objetivo es que este libro se convirtiera en una herramienta accesible, auténtica y conectada con todos aquellos que desean conocer y valorar el patrimonio histórico-cultural de la ACP, en abandono y sin acceso público desde que revirtió a Panamá; bajo la responsabilidad exclusiva y cuidado del Canal de Panamá.

Si bien los formatos tradicionales brindan estructura y uniformidad, también pueden restringir la creatividad y limitar la forma de transmitir una visión personal. Al abordar una temática tan profundamente arraigada a nuestra historia y, al mismo tiempo, tan urgente en cuanto a su preservación, sentí que era esencial apartarme de lo convencional. De esta manera, pude crear una narrativa que no solo presentara hechos históricos, sino que también reflejara la riqueza de este patrimonio desde una perspectiva cultural, educativa y humana.

El propósito no es solo informar, sino también inspirar. Por ello, opté por un enfoque visual, utilizando fotografías y una narrativa que fusiona lo histórico con lo emocional. Aunque este estilo no sigue los moldes tradicionales, me permitió transmitir la importancia de los sitios y monumentos que merecen ser protegidos, restaurados y promovidos, tanto como parte integral de nuestra identidad como un atractivo potencial para el turismo. Aunque el título del libro parece importante, el verdadero valor de este libro está en el Apéndice y Anexo.

La prioridad es que este libro genere un sentido de urgencia y pertenencia, invitando a los lectores e interesados a ser parte activa del esfuerzo por salvar este legado histórico en abandono antes de que se pierda. En un mundo donde la uniformidad a menudo prevalece, mi elección fue romper con el molde para destacar lo único e irrepetible de nuestro patrimonio.

Espero que, al apartarme de lo establecido, haya logrado conectarme con ustedes de manera honesta y genuina. El patrimonio histórico-cultural del Canal de Panamá no es solo un conjunto de estructuras antiguas en abandono, sino un reflejo de nuestro pasado, una fuente de inspiración para lo que somos hoy y un legado invaluable para las futuras generaciones. La recuperación de este patrimonio debe comenzar con la Antigua Planta Potabilizadora. Confío en que la Administración / Junta Directiva del Canal de Panamá, ministerios y autoridades de Panamá liderarán con éxito este noble esfuerzo por el bien de nuestro país.

Apéndice

Valorar el estatus del patrimonio histórico-cultural del Canal (junio 2022) desde su reversión a Panamá, hace décadas, es un tema subjetivo que resumo a continuación utilizando las luces de un semáforo como referencia: verde (bien), amarillo (regular) y rojo (mal).

- Restauración

🔴 Rojo (Mal): En abandono, deterioro o plan de demolición; sin atención por años.

🟡 Amarillo (Regular): Hay plan de restauración a corto, mediano o largo plazo.

🟢 Verde (Bien): Restaurado exitosamente.

- Preservación

🔴 Rojo (Mal): Sigue deteriorándose sin medidas preventivas por parte de la ACP.

🟡 Amarillo (Regular): Con un deficiente programa de preservación y mantenimiento.

🟢 Verde (Bien): Preservado correctamente y mantenimiento periódico.

- Protección Legal

🔴 Rojo (Mal): Sin leyes nacionales que lo protejan.

🟡 Amarillo (Regular): Hay anteproyectos de ley a corto, mediano o largo plazo.

🟢 Verde (Bien): Hay leyes nacionales que lo protegen.

- Promoción Turística

🔴 Rojo (Mal): No hay promoción turística ni acceso público.

🟡 Amarillo (Regular): Promoción turística y visitas limitada al personal del Canal de Panamá.

🟢 Verde (Bien): Hay promoción turística y educativa. De libre acceso al público

A continuación, algunos ejemplos de las centenas de áreas patrimoniales de acceso restringido, por la ACP, cercanos al Centro de Visitantes de Agua Clara y el nuevo Mirador de las Esclusas de Gatún[33], o próximos al Centro de Visitantes de Miraflores.

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[33] https://visitcanaldepanama.com/es/sitios-de-interes/centro-de-visitantes-de-agua-clara/

A. Diez (10) ejemplos de acceso restringido, por la ACP (2022), cercanos al Centro de Visitantes de Agua Clara:

1. Vagones franceses en Monte Esperanza y Faro de Punta Toro (siglo XIX)

Restauración 🟡 / Preservación 🟢 / Protección Legal 🔴 / Promoción Turística 🔴

2. Cementerio de Gatún (1904-1909)

Restauración 🟡 / Preservación 🟢 / Protección Legal 🔴 / Promoción Turística 🔴

3. Poblado de Gatún (1907-1913)

Restauración 🔴 / Preservación 🟡 / Protección Legal 🔴 / Promoción Turística 🔴

4. Planta Potabilizadora de Agua Clara (1910-1911) - Edificios 297-298

Restauración 🔴 / Preservación 🔴 / Protección Legal 🔴 / Promoción Turística 🔴

5. Barraca de trabajadores de la Nómina de Plata (1912-1913) - Edificio 34

Restauración 🔴 / Preservación 🔴 / Protección Legal 🔴 / Promoción Turística 🔴

6. Presa, vertedero e hidroeléctrica de Gatún (1907-1913)

Restauración 🟡 / Preservación 🟢 / Protección Legal 🔴 / Promoción Turística 🔴

7. Grúa Hércules (1914) - Desguace iniciado en el año 2022

Restauración 🔴 / Preservación 🔴 / Protección Legal 🔴 / Promoción Turística 🔴

8. Escuela primaria de Gatún (1916) - Edificio 206

Restauración 🔴 / Preservación 🔴 / Protección Legal 🔴 / Promoción Turística 🔴

9. Templo Masónico - *Siebert Lodge* (1936) - Edificio 213

Restauración 🔴 / Preservación 🔴 / Protección Legal 🔴 / Promoción Turística 🔴

10. Iglesia Católica de Gatún (1937) - Edificio 147

Restauración 🔴 / Preservación 🔴 / Protección Legal 🔴 / Promoción Turística 🔴

Vagones franceses en Monte Esperanza

División Industrial del Canal de Panamá

Los vagones franceses utilizados durante la construcción del Canal de Panamá tienen su origen en el ambicioso proyecto iniciado en 1881 por la *Compagnie Universelle du Canal Interocéanique*, bajo la dirección del célebre ingeniero francés Ferdinand de Lesseps, conocido por su éxito en el Canal de Suez.

Para esta empresa monumental, se importó una gran cantidad de equipos desde Francia y Europa, entre ellos locomotoras, rieles y cientos de vagones de carga especialmente diseñados para trabajos pesados. Estos vagones, fabricados principalmente en talleres metalúrgicos franceses, fueron transportados por barco hasta Colón, en la costa atlántica panameña, y ensamblados en sitio para ser integrados al sistema ferroviario que se construía paralelamente a la excavación del canal.

Los vagones franceses eran construidos en acero y diseñados para soportar grandes volúmenes de tierra, roca y escombros, lo cual era indispensable para el tipo de excavación masiva que se intentaba realizar en el trópico panameño. Muchos de estos vagones eran de tipo volquete o *dump cars*, con mecanismos manuales o hidráulicos que permitían vaciar rápidamente el material excavado.

También se utilizaron vagones plataforma y cerrados para transportar maquinaria, herramientas y suministros. Aunque su diseño era sólido, el sistema ferroviario sufría constantemente por las difíciles condiciones del terreno, las lluvias torrenciales y la falta de mantenimiento adecuado, lo que eventualmente afectó la eficiencia del proyecto.

Durante el periodo de construcción entre 1881 y 1889, los vagones franceses fueron pieza clave en la logística de la excavación, particularmente en el corte de Culebra, una de las zonas más difíciles del trazado del canal. Sin embargo, el mal manejo administrativo, la corrupción, las enfermedades tropicales y los desafíos técnicos llevaron al colapso del proyecto en menos de una década. Muchos de los vagones quedaron abandonados o inutilizados en patios ferroviarios y campamentos de trabajo, especialmente tras la bancarrota de la compañía francesa en 1889, un hecho que marcó uno de los mayores escándalos financieros del siglo XIX.

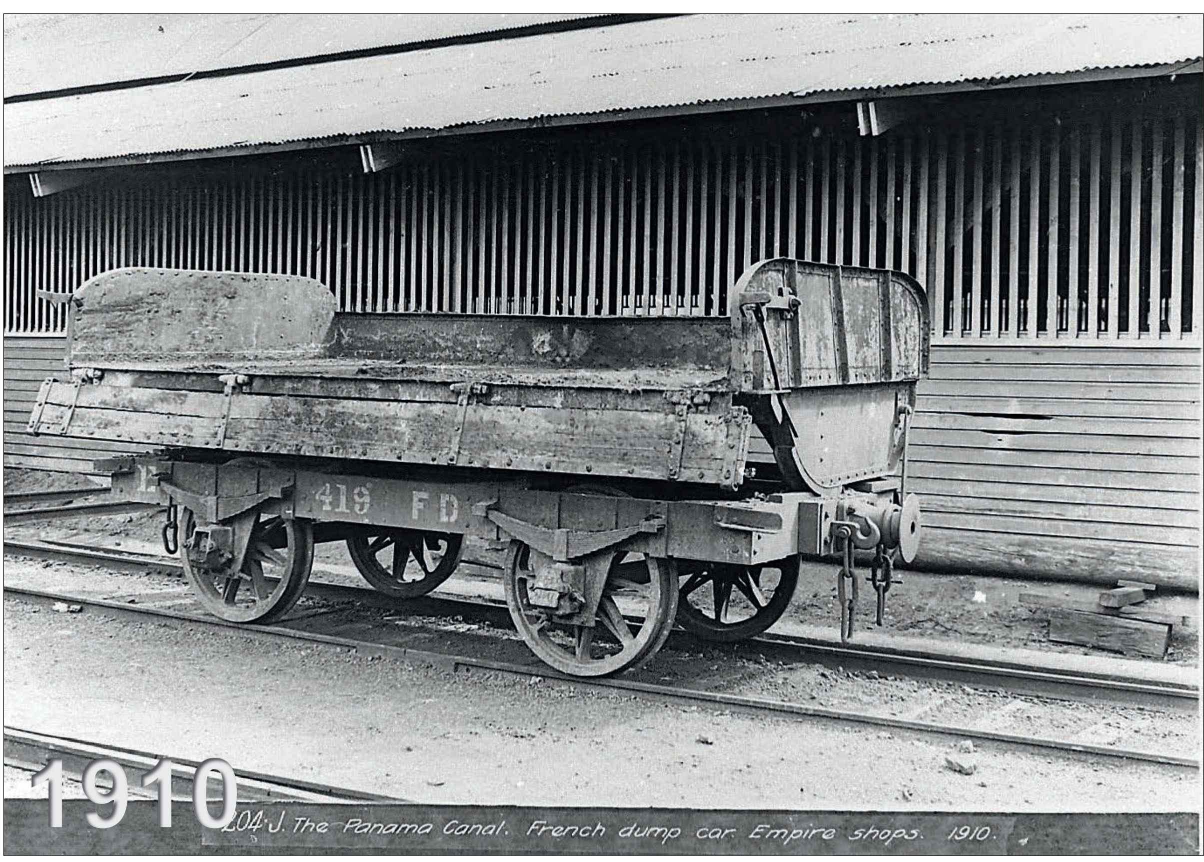
Cuando los Estados Unidos asumieron el control de la "Nueva Compañía del Canal de Panamá" en 1904, se evaluó parte del equipo rodante, incluyendo vagones y locomotoras, para determinar su reutilización potencial. Aunque muchos estaban deteriorados por el óxido o en mal estado, algunos fueron restaurados y utilizados temporalmente durante los primeros años de la construcción bajo administración estadounidense. Sin embargo, el enfoque técnico renovado y la modernización del proyecto condujeron a la adquisición de maquinaria más avanzada, lo que gradualmente desplazó a los equipos franceses. Entre 1905 y 1906, con la llegada de equipos más robustos y adecuados para el rediseño del canal, los equipos franceses fueron progresivamente reemplazados, desguazados, rematados por su valor metálico o abandonados a lo largo de la vía canalera.

Los vagones franceses representan un capítulo fundamental en la historia del Canal de Panamá. Aunque asociados a un intento fallido, su presencia marcó el inicio de una de las obras de ingeniería más ambiciosas de su época. Hoy, algunos de estos vagones se conservan como piezas de museo o se encuentran en áreas históricas del Canal, algunos oxidándose silenciosamente por su exposición al salitre o en el fondo del lago Gatún. Su existencia recuerda el esfuerzo pionero de los franceses, los desafíos enfrentados en un entorno hostil y la perseverancia humana ante la adversidad. Son parte del legado material de una epopeya que transformó para siempre la geografía y la historia del Istmo de Panamá.





206-Ac. Culebra Cut. French Excavator at Foot of Gold Hill. Looking north. 1896.



204 J. The Panama Canal. French dump car. Empire shops. 1910.

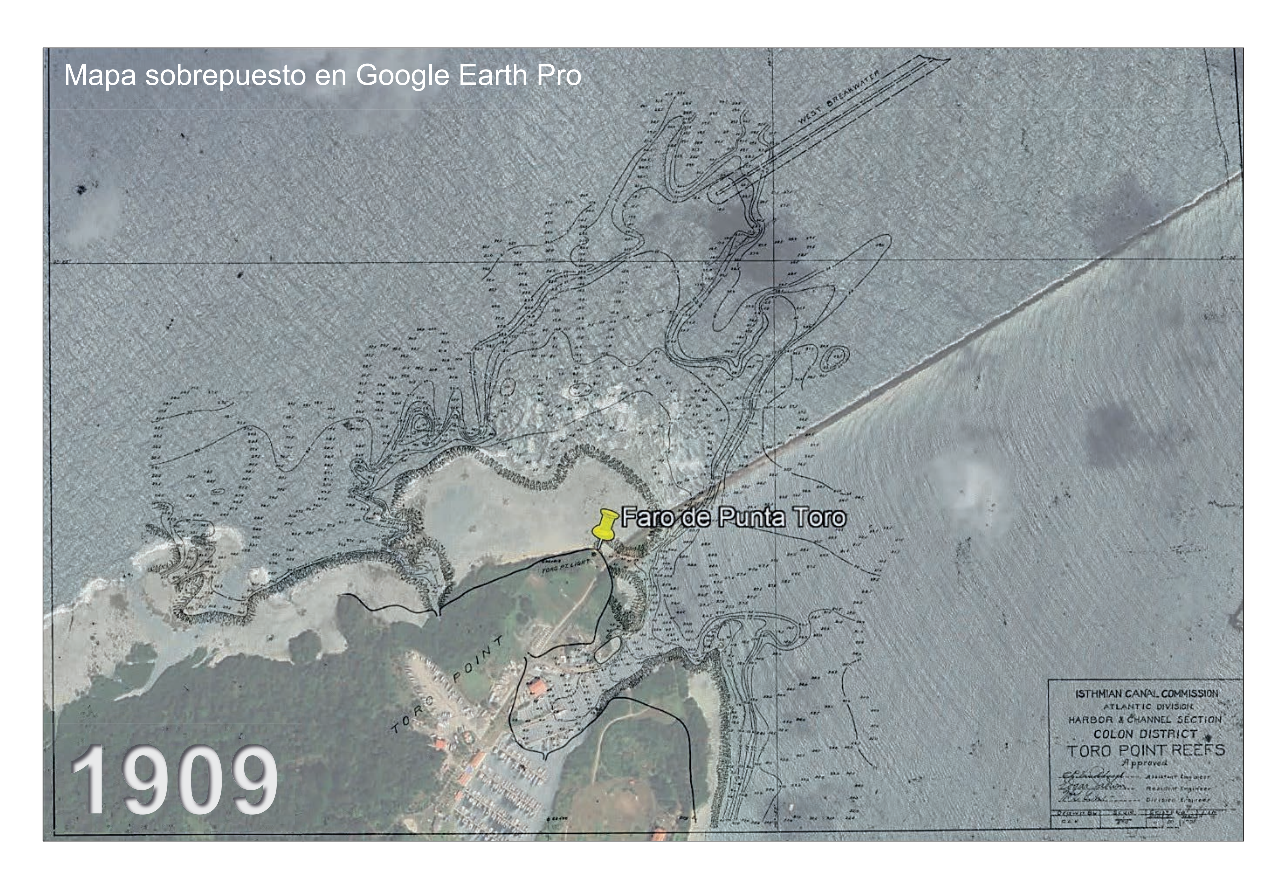

1913
203-A! Old French dump cars at Mt Hope, July 1913.


2021

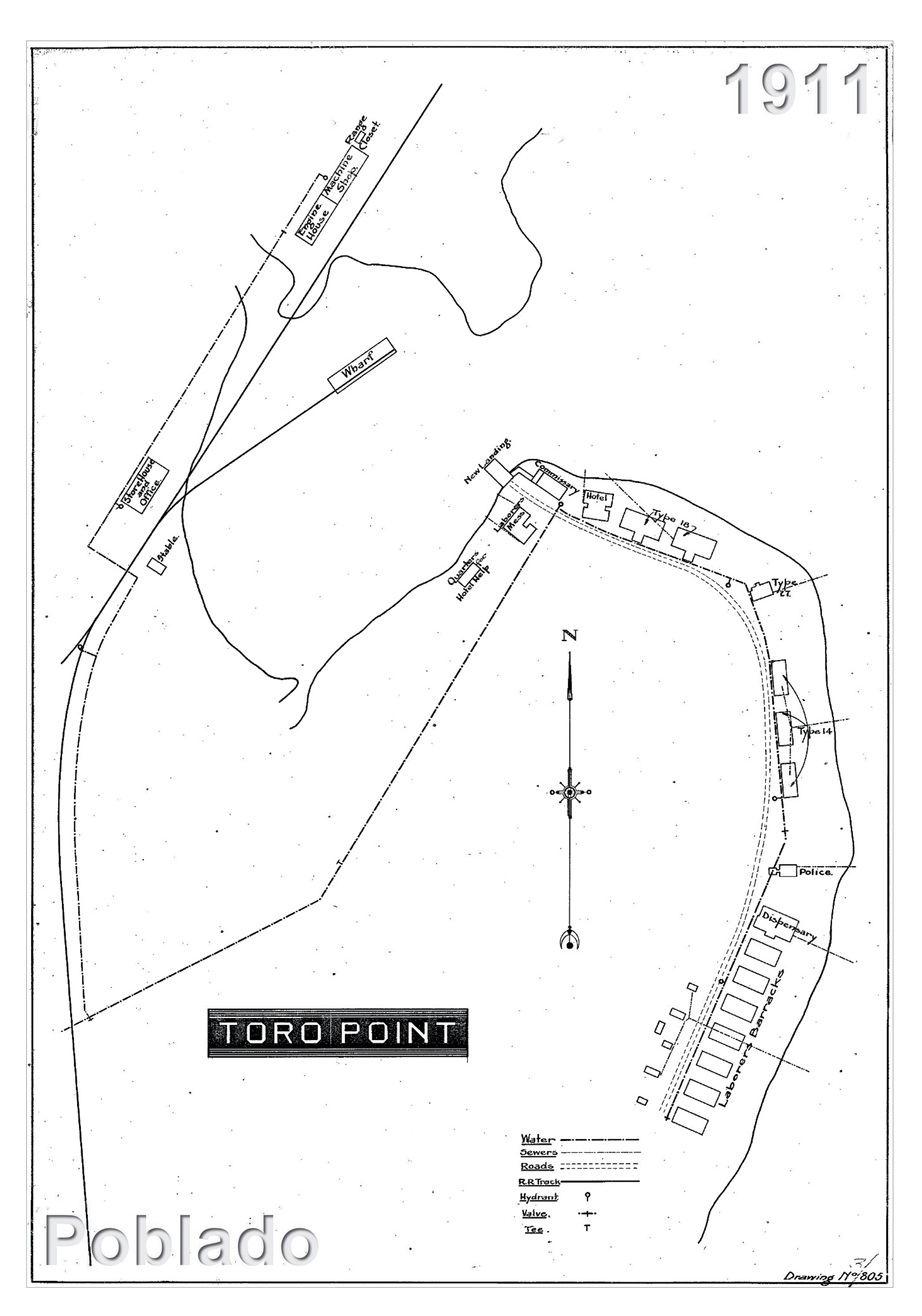
FARO DE PUNTA TORO

También conocido como *Toro Point Lighthouse* o Faro de Toro Point, fue diseñada por el ingeniero Alexandre Gustave Eiffel y operativo por los franceses en 1893 (*Lighthouse Digest Magazine*) durante su ambicioso y trágico intento por construir un canal interoceánico en el corazón del istmo panameño en el periodo de la *Compagnie Universelle du Canal Interocéanique de Panama* (1880-1889), como parte de las primeras obras permanentes de infraestructura marítima para el acceso al canal desde el Atlántico que permanece en excelente estado hoy en día.

De acuerdo con *Panamatour.it*: Es el faro de acero más antiguo construido en Latinoamérica. Es más viejo que nuestra república. Fue construido durante la época del Canal Francés. Pieza estratégica durante la 2da Guerra Mundial, y considerado monumento histórico (1999) por IALA [Asociación Internacional de Ayudas a la Navegación Marítima y Autoridades de Faros] una asociación foránea.



Mapa sobrepuesto en Google Earth Pro


1911
Range
Closet
Machine
Shop
Engine
House
Wharf
Storehouse
and
Office
Stable
New Landing
Commissary
Hotel
Laborers
Mess
Type 18
Type 17
Quarters
Hotel Help
N
Type 14
Police
Dispensary
Laborers Barracks
TORO POINT
Water
Sewers
Roads
R.R.Track
Hydrant
Valve
Tee
Poblado
Drawing No 805



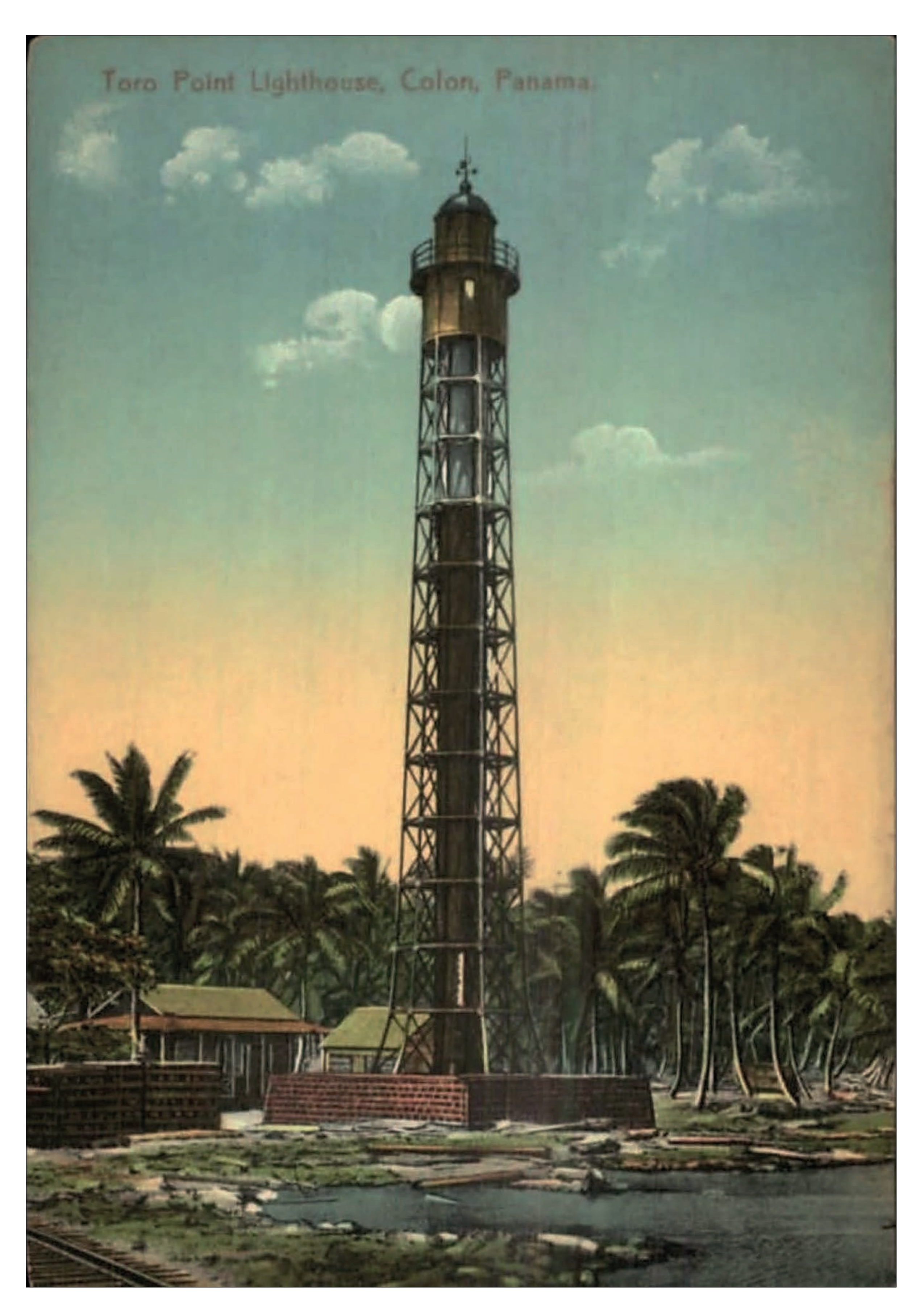
507-K.-Torro Point Trestle for Breakwater under construction.-Sept. 16, 1910.



507-N[1].-Labor Quarters with self-closing Garbage Cans, Toro Point.-July, 1911.


1911


2022


Toro Point Lighthouse, Colon, Panama.


2022

Cementerio de Gatún

Traducción.

Ancón, Octubre 13, 1904.

Señor:

He recibido su carta del 8 de Octubre, por la cual manifiesta Ud. que, en atención á la limitada extensión del cementerio Municipal, se hace necesario conseguir un lote de terreno con el objeto de agrandar dicho cementerio.

Entiendo que el lote de terreno á que Ud. se refiere, se encuentra á proximidad de la Estación del Ferrocarril, y, por consiguiente, no sería un local aparente para cementerio.

Le suplico se sirva indicar algún otro lote de terreno que pueda ser utilizado con tal objeto.

De Ud. &,

Firmado: H. D. Reed,
Secretario Ejecutivo.

Señor José G. Salazar,
Alcalde, Gatún.

Traducción de respuesta, del 13 de octubre de 1904, del Secretario Ejecutivo de la ICC a solicitud del Alcalde, del 8 de octubre de 1904, para cementerio en el poblado de Gatún.


1913
CEMETERY
NEW Gatun
GATUN
Mapa sobrepuesto en Google Earth Pro

1904

Gatún, Octubre 8/1904.

Señor Don.

H D Reed.

Secretario Ejecutivo

Ancon

El Distrito carece de un Cementerio, porque el que hay en la actualidad; es muy chico y no caben yá los muertos. Dicho Cementerio se encuentra situado en un lote de terreno que tiene arrendado el Señor José H. Stilson, á la Compañía del P.R.R. y deseo agrandarlo más, en el mismo lugar pues hay un lugar aparente y que no perjudica en nada al Señor Stilson ni al Ferrocaril, dicho lote se encuentra situado entre la milla 6 y 7, y como ese lote á pasado á ser propiedad del Gobierno que es Ud. uno de sus dignos representantes. Espero de Ud. me dé la autorización para hacer limpiar y arreglar el lote de terreno, de que le hago mención pues es una necesidad de que reclama el pueblo.

Soy de Ud. atto. y S.S.

José G. Salazar

Alcalde.

Answered Oct. 19 1904

When replying refer to

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF SANITATION
OFFICE OF CHIEF SANITARY INSPECTOR
ANCON, C. Z.

RECEIVED
AUG 24 1907
OFFICE OF ...

CHIEF SANITARY OFFICE

Ancon, August 23, 1907.

Col. W. C. Gorgas, USA,

Chief Sanitary Officer,

Ancon.

Dear Sir:-

I respectfully request that a new cemetery be located at Gatun about 200 yards south-east of the colored married quarters, and half way between the Government Buildings at Gatun, and the new town site of Gatun.

If there is no objection to said location, it is suggested that the plot be surveyed and mapped. The ground is irregular, and I showed the local Sanitary Inspector, Mr. Brady, what land was desired. He would be pleased to indicate to the engineer who makes the survey what ground we require.

The old cemetery must soon be abandoned, and it would be convenient to inter in the new location, as early as possible.

Very respectfully,

J. A. LePrince

Chief Sanitary Inspector.

L-W

1907

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF SANITATION
OFFICE OF CHIEF SANITARY INSPECTOR
ANCON, C. Z.

When replying refer to ... File No. ...
CHIEF SANITARY OFFICE

December 9, 1907.

FILE No. 77-C-54

Major C. C. McCulloch, Jr.,
Acting Chief Sanitary Officer,
Ancon, Canal Zone.

Dear sir:-

The old cemetery at Gatun was abandoned and a new one started. I should like to know whether it will be necessary to remove bodies to the new cemetery and when such work should be done.

I do not know whether a fill will be located over the old cemetery or not. In the former case, it would probably be best not to remove the remains. If excavation is to be made, we should remove everything before excavation starts. It may be difficult to get labor to do this work.

Very respectfully,

J. A. LePrince

Chief Sanitary Inspector.

L-C.



1907

Referring to your File No. ....

COL. W. C. GORGAS, U. S. A.
CHIEF SANITARY OFFICER.

ISTHMIAN CANAL COMMISSION
DEPARTMENT OF SANITATION
ANCON, CANAL ZONE

In reply refer to File No.

August 19, 1909.

Mr. J. A. LePrince,
Chief Sanitary Inspector,
Ancon, C. Z.

S i r :

I submit therewith report covering the question of a new burial ground at Gatun for the new Gatun Village, and beg to state that I do not think one is necessary, owing to the fact that the present burial ground, located west of New Gatun, is sufficient for a good many years. This burial ground contains five acres of land enclosed with a wire fence. It was started about December 9th, 1907. Up to the present time we have eighty-three graves in this cemetery.

About a year ago the Sanitary Department removed several bodies from the old cemetery near the dam site, under the direction of the Atlantic Division. There are still a few graves left, as we only removed those that would interfere with the progress of the work that was going on at that time.

Respectfully,
(Sgd.) E. Fred'k. Quimby,
Division Inspector.

J.

1909


1989


1989

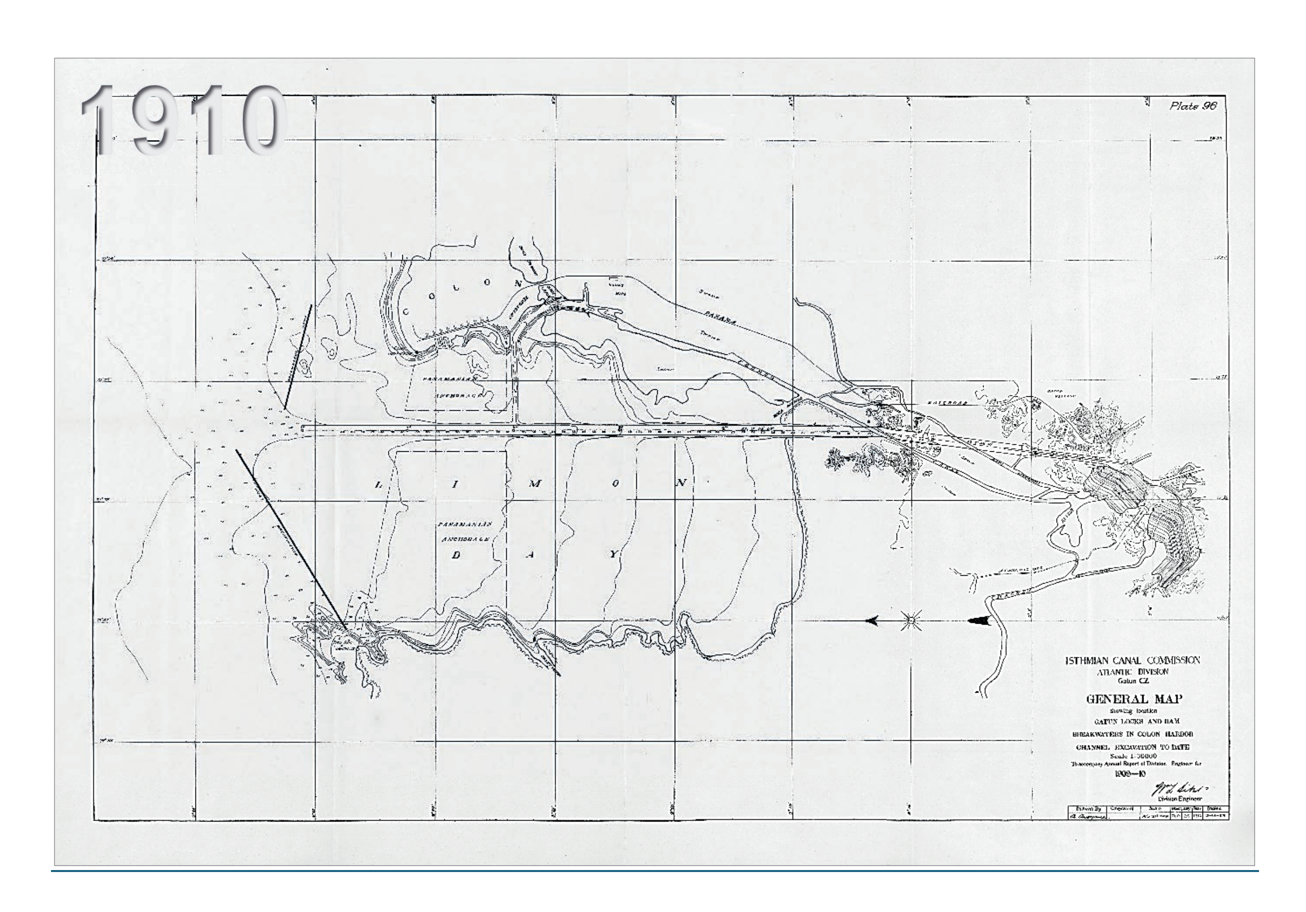


1989
1159
In
Loving Memory
of my
Beloved Husband
Johnson
Born Dec
Died Feb 13
RIP


2022

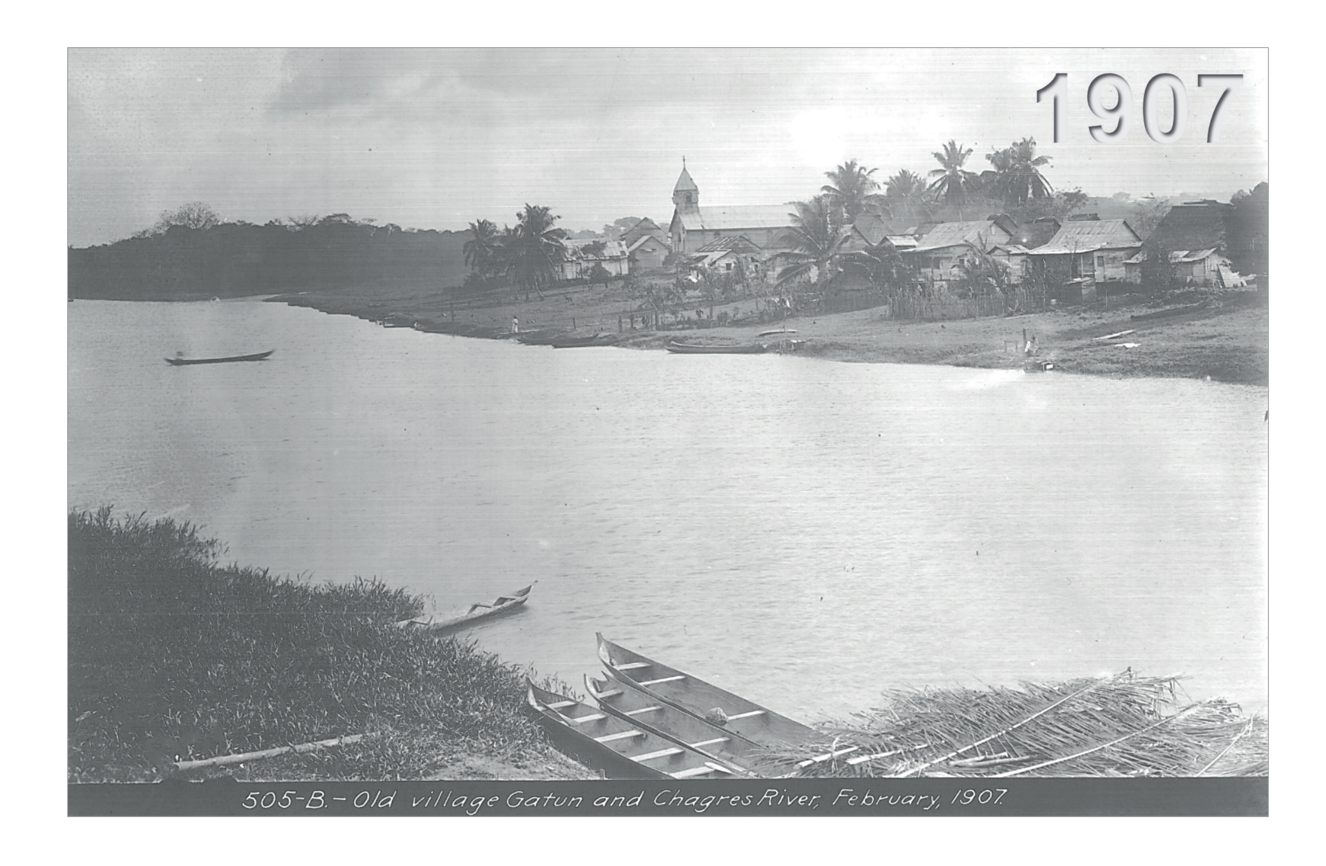

2022


2022



ANTIGUO POBLADO DE GATÚN

Ubicado en el lado Atlántico del Canal de Panamá, se desarrolló principalmente entre 1907 y 1913 durante la construcción del canal. En 1904, tras la adquisición de los derechos y propiedades de la compañía francesa, los ingenieros estadounidenses iniciaron trabajos en la zona. Para junio de 1907, ya se habían erigido 97 edificios y se había establecido una comisaría. En abril de 1908, los residentes del antiguo pueblo fueron trasladados al área denominada "Nuevo Poblado". En 1909, la comunidad experimentó un crecimiento significativo con la construcción de diversas infraestructuras, incluyendo un club, una estación de ferrocarril y una escuela. En marzo de 1913, la población de Gatún era 8,887. Nueve meses más tarde, se había reducido a 5.943 cuando se completó la represa de Gatún, las esclusas de Gatún estaban operando y solo se mantuvo el trabajo de mantenimiento.



505-B.– Old village Gatun and Chagres River, February, 1907.

August 4, 1909. THE CANAL RECORD 391

OLD AND NEW GATUN.

Last Vestiges of Former Village Disappear as Operations Advance.

The last traces of the village of Gatun, as it existed when the Americans came to the Isthmus in 1904, are being wiped out, as the building of Gatun Dam advances. The office building along the old line of the Panama railroad was razed about the middle of July by the laborers who are stripping the ground in advance of the hydraulic fill, and the water in the fill is rapidly rising toward the houses in the negro settlement, between the storage piles and the old railroad station. This hamlet is within the limits of the Dam, and its site will eventually be covered. As the old village disappears, the new Gatun on the hills overlooking the site of the Dam and Locks grows larger. It is now one of the largest settlements in the Canal Zone.

The native village of Gatun was located on a peninsula formed by a big loop which the Chagres River formerly made at that place. It was a well known landing place for boats navigating the Chagres. At the time the surveys were made for the Harrison map, the village was protected by a fort located on the hill that rises to 120 feet above sea level just south of the spillway of Gatun Dam. On the Panama railroad map, published in 1855, Gatun is shown as a hamlet of about a hundred houses. The railroad station and a few shacks alongside it had also been erected at that time on the east bank of the river.

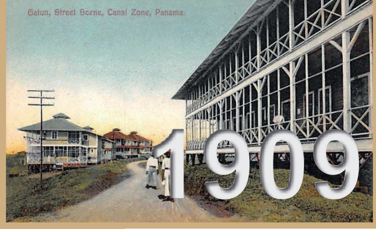
Dr. F. N. Otis in his Handbook of the Panama Railroad, written in 1861, says: "On the opposite shore of the river stands the ancient native town of Gatun, which is composed of forty or fifty huts of cane and palm, and situated on the edge of a broad savanna that extends back to a range of hills a mile or two distant. This place is worthy of mention as a point where, in the days by-gone, the bongo-loads of California travelers used to stop for refreshment on their way up the river; where 'eggs were then sold four for a dollar, and the rent for a hammock was two dollars a night.'"

In 1881, the French began operations at Gatun, setting dredges and excavators at work, and erecting a machine shop. A laborers' village was established, with quarters for five hundred men, and later, Gatun was made a residency.

When the Americans arrived in 1904, Gatun was the center of a comparatively large river trade. Bananas and other produce from the Gatun, Trinidad, and Chagres Rivers were brought there for transhipment by rail, and for sale. Once a week, a shipment of from seven to nine carloads of bananas was made, and on the shipping day, as many as a hundred cayucas would tie up at Gatun. The village on the island consisted of a dozen stores, a church, and seventy or more native huts. The negro settlement near the railroad station, known as the "Cite de Lesseps" numbered about 50 shacks, and there were nine other buildings near the station. The only vestiges of the French village were the negro shacks and one house constructed of French material, and later occupied as an office by the Americans.

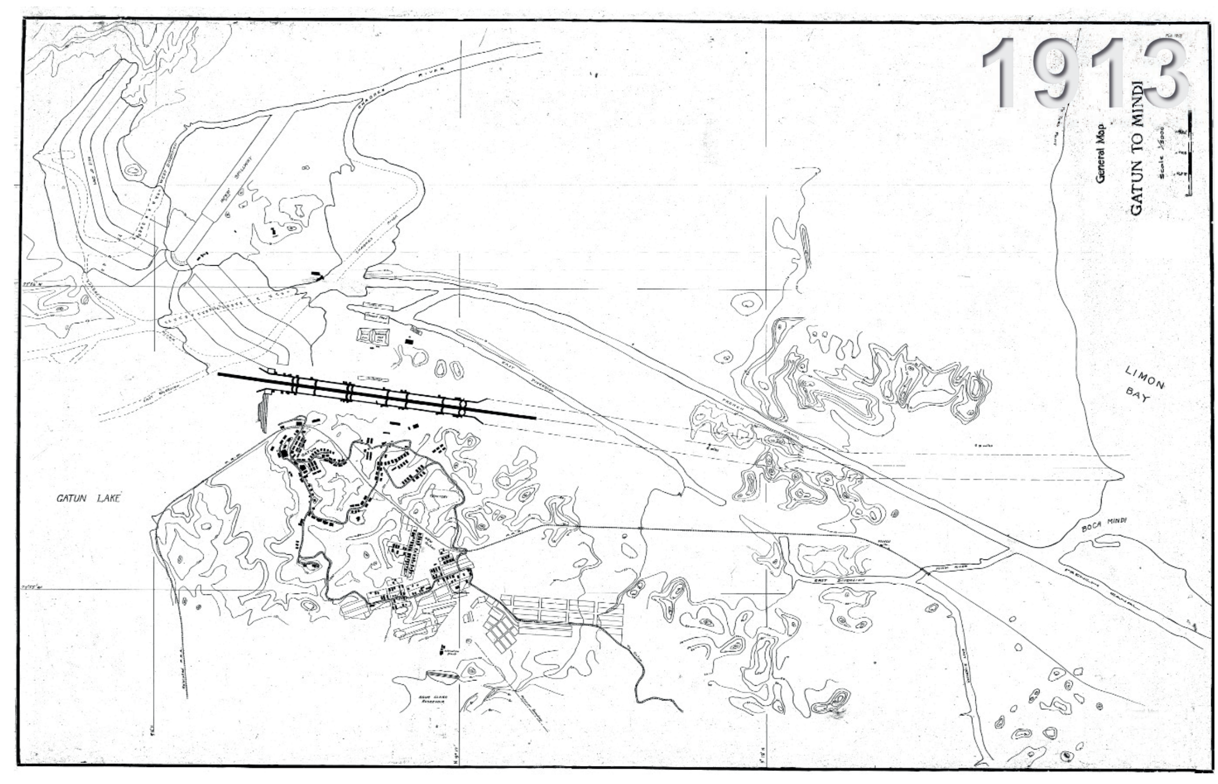
The new Gatun commands a view of the Lock and Dam sites on the west, and on the north looks out toward Limon Bay, giving a glimpse of the shipping in the harbor and the dredges at work in the north entrance to the Canal. In construction it is a typical Canal village. In addition to the hotel, post-office, office buildings, fire station, meeting hall, hospital, school and corral, it includes 25 family quarters for one family each; 24 quarters for four families; 11 bachelor quarters of 8 rooms each; 5 bachelor quarters of 24 rooms each; 33 barracks for laborers; 6 family quarters for laborers.






1909


1911


1913
General Map
GATUN TO MINDI
GATUN LAKE
LIMON BAY
BOCA MINDI


11029 AS
11029 A.S.
UNCLASSIFIED
JAN 7 1927
UNCLASSIFIED - per CAM-58-P-82 - 21 Dec. 1956 and 11 Feb. 1957 from AFOIN-1A2.)
Camp at Gatun, Gatun Locks and Spillway, Canal Zone
France Field Neg. No1178, May 29, 1923
INDEXED
1923

Your Town - Gatun



GATUN'S TRIPLE FLIGHT of locks, extending one and one-sixth miles, raises or lowers transiting ships 85 feet. Islands which were once hilltops dot the surface of the lake beyond the upper end of the locks.

Anyone revisiting the Canal Zone today, after an absence of 40 years, would have considerable trouble orienting himself in the town of Gatun. Its topography has been more changed and the town itself has undergone more metamorphoses than almost any other section of the Canal Zone.

The name El Gatún, for village and river, appears on maps of Panama's colonial days. It may be derived from "gato," for cat, referring to the feline, smooth-running river; or it may come from "gatunero" or seller of smuggled meat, since Gatun was known as a place where stolen cattle were brought for sale to travellers.

Sir Henry Morgan and his men bivouacked close to Gatun, near what is now known as Navy Island, after sacking the old city of Panama nearly 300 years ago.

During colonial times and until the beginning of this century, Gatun was located on the west bank of the Chagres, about where the office and machine buildings of Gatun Dam now stand. In the mid-1800's it was described as a sleepy village of 40 or 50 cane huts, on the edge of a broad savannah. On a hill overlooking the river were ruins of an old Spanish fort.

The gold rush of 1849 and the beginning of construction of the railroad a year later woke Gatun with a jolt. Travellers, on their way upriver from Chagres, paid 25 cents each for eggs and $2 a night for a hammock, exorbitant prices for those days.

When work began on the railroad, ships carried machinery, provisions, and part of the railroad force up the Chagres to Gatun. From Gatun they worked their way back through the swamp toward the railroad's Atlantic terminus on Manzanillo Island, now Cristobal-Colon.

A month after the railroad ran its first work train, on October 1, 1851, as far as Gatun, a "norther" forced two passenger-jammed ships into Limon Bay. The thousand California-bound gold hunters, unable to land at Chagres and start their journey up river from there, demanded passage on the railroad. They paid 50 cents a mile and $3 per 100 pounds of baggage for the 7-mile train ride.

As the railroad tracks stretched further toward the Pacific, Gatun became just a railroad station and a river produce landing. Beside the tracks which ran on the east bank of the Chagres were a large, two-story house, a cluster of smaller buildings, and "suitable outbuildings" around a flourishing garden.



THE LESTER L. LARGENTS are a Gatun man-and-wife team. Sergeant Largent is in charge of the Gatun police station; Mrs. Largent is the nurse in charge of the Gatun first aid station.

But about 1880 the French Canal Company forces reached Panama. Almost overnight, thousands of prefabricated buildings were unloaded from ship after ship. Warehouses, quarters, and machine shops went up in Gatun and along the railroad line. By 1881 Gatun, rechristened Cité de Lesseps, had become the largest town in what is now the Canal Zone.

After the French virtually abandoned work on the canal, Gatun lapsed into the quiet of its pre-boom days. American forces began work in 1904 but Congress did not authorize a lock-type canal until 1906.

French engineers and the first U. S. Isthmian Canal Commission had planned to dam the Chagres at Bohio, about 17 miles from Colon. It was John F. Stevens, the Canal's second Chief Engineer, who advocated harnessing the Chagres at Gatun.

"Why not make the Chagres the servant instead of the master of the situation?" he asked.

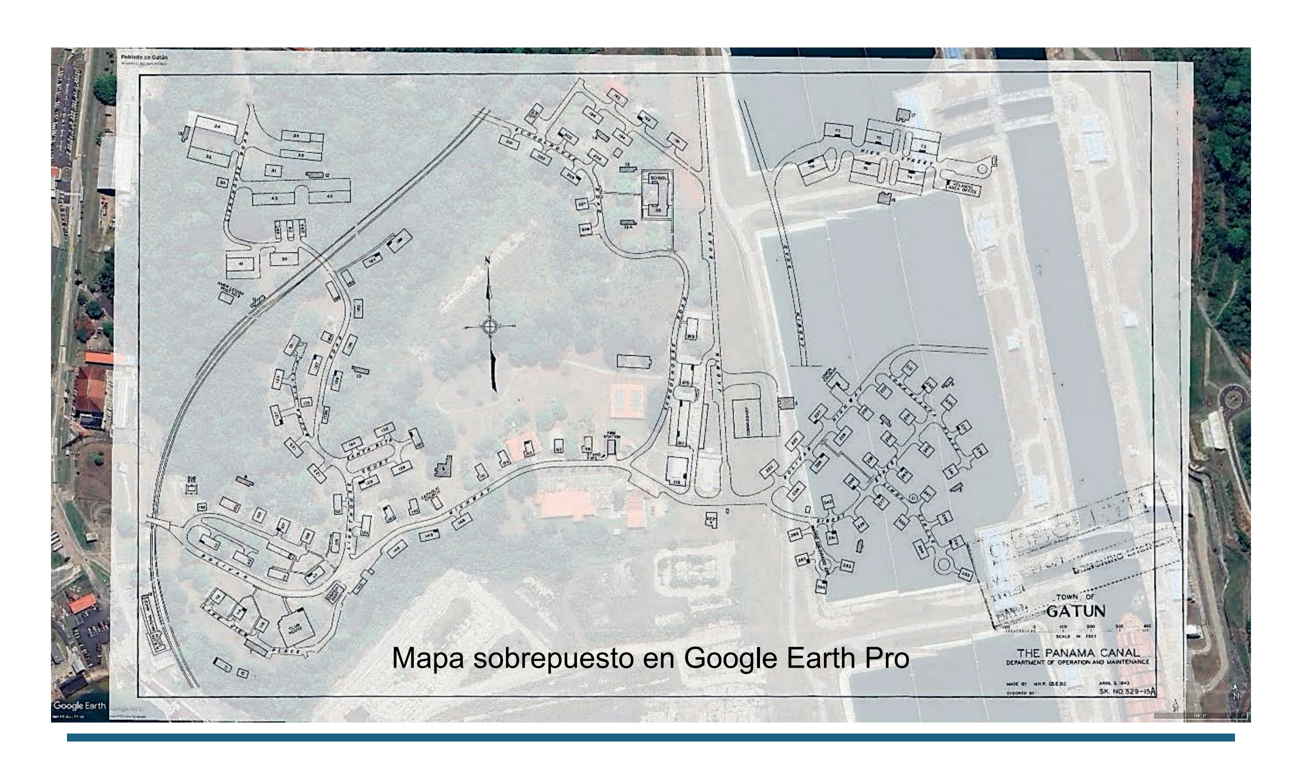
Engineers quarrelled with his selection of Gatun as the dam and lock site and declared that the rock foundation was not suitable. Stevens held firm, and declared: "If Nature had intended triple locks there she could not have arranged matters better." But it was not until the then Secretary of War, William H. Taft, brought a group of engineers to the Canal Zone—they pronounced the location satisfactory—that the furor died down and work could be started.

Tent City

While the family and bachelor quarters and labor barracks to house the lock and dam forces were being built, the workers and some of their families were sheltered in about 150 tents of varied shapes and sizes which stood in more or less orderly rows alongside the railroad tracks. The Labor and Quarters Department objected roundly.

Jackson Smith, its head, predicted: "On account of its being a tent city, the men will not remain there after their first pay day;" and his assistant, Lt. R. E. Wood, now Chairman of the Board of Sears, Roebuck, added: "Gatun is going to be what Mount Hope and Comacho have proven to be—a sinkhole for men."

The town was built under difficulties.



Poblado de Gatún en 1943 (arriba) y hoy (fondo y abajo) en casi abandono con restricción de acceso (ACP). Casas, escuela, iglesia, áreas deportivas, etc., sin uso desde hace años. La mayoría de las edificaciones históricas de este poblado han sido demolidas; gran parte por la construcción de las tinas de reciclaje de agua de la Ampliación del Canal de Panamá (2007-2016).



Historia canalera...

Caseríos y poblados que serán cubiertos por el Lago Gatún

El siguiente artículo, tomado del Récord del Canal de Panamá del 6 de diciembre de 1911, cuenta sobre los poblados que serían cubiertos por el Lago Gatún luego de la construcción de la Represa de Gatún. El artículo ofrece una visión interesante de la historia del área del Canal de Panamá y sobre la vida en el Istmo durante los días de la construcción del Canal. Debido a su longitud, el artículo será publicado en cinco partes.

Primera parte

Los poblados entre Gatún y Matachín serán cubiertos por las aguas del Lago Gatún. Nunca han sido importantes en cuestión de tamaño, o como centro de ningún tipo de vida en particular. De hecho, son un poquito más que caseríos en la jungla, pero tiene un sitial en la historia americana, pues fueron conocidos por la civilización europea muchos años antes que Jamestown (el primer establecimiento en Norteamérica, fundado en 1607) se estableciera o que Bahía Massachusetts (sociedad anónima creada por decreto real en 1629) fuera una colonia inglesa.

En El Récord del Canal del 29 de noviembre, se publicó una carta (del Gen. George W. Davis, miembro de la Comisión del Canal Istmico) en la cual se llamaba la atención al hecho de que los nombres de algunos de estos poblados aparecían en el mapa publicado con las narraciones de Esquemeling (Alexander Esquemeling) sobre Bucaneros en 1678. La mayoría de ellos precedieron ese tiempo, pues no fueron nombrados por los ingleses que saquearon con Morgan (Sir Henry Morgan, conocido por destruir la ciudad de Panamá en 1671), pero son señalados en el libro de Esquemeling como lugares ya conocidos, e invariablemente llevan nombres en español. Es probable que la mayoría de ellos daten de los inicios de la navegación en el Río Chagres, cuando fuera una de las rutas comerciales más utilizadas a través del Istmo. Entre estos están Ahorca Lagarto, Barbacoas, Caimito, Matachín, Bailamonos, Santa Cruz, Cruz de Juan Gallego y Cruces (Venta Cruz).



Una vieja aldea

Techos de paja se entremezclan con nuevos techos de metal en las casas de madera de la aldea de Cruces en esta foto de 1912. Cruces era la última parada para las canoas que viajaban por el Río Chagres desde el Atlántico para luego cruzar por tierra y llegar al Pacífico.

Desde 1530 los barcos españoles navegaban la costa de Nombre de Dios y entraban al Chagres, donde sus productos eran transferidos a canoas y llevados río arriba hasta Cruces, a una distancia de 36 millas desde la boca del río, cerca del punto donde se inicia el Corte Culebra. Desde Cruces eran llevados por tierra a Panamá. Durante tiempos de crecidas, cuando podía navegarse con rapidez en botes pequeños, esta era la ruta más fácil a través del Istmo, aunque los caminos desde Nombre de Dios, después de 1586, y desde Porto Bello se mantuvieron abiertos y fueron muy utilizados por trenes de carga. El atracadero en la boca del río no es tan seguro como los de Nombre de Dios y Porto Bello, y el hecho de que el comercio por esta ruta no era inconsiderable, es comprobado por el hecho de que la entrada al Chagres era vigilada por un fuerte (San Lorenzo). Los caseríos en el río eran del tipo de los establecimientos que crecieron a lo largo de las carreteras en los tiempos en que se viajaba en coche y a caballo, y sus pobladores probablemente subsistieron del comercio que sostenían con los viajeros, como de las cosechas de sus propias tierras. Esquemeling habla de campos cultivados, por lo que indudablemente se sembraba y comerciaba.

El comercio del río se redujo considerablemente luego del reinado de Felipe II, pues el monopolio de España terminó, y la ruta marítima hacia Perú por el Estrecho de Magallanes resultó menos peligrosa. Pero esto fue porque el comercio en sí disminuyó, ya que la ruta del Chagres continuó siendo usada hasta el tiempo de la culminación del ferrocarril de Panamá en 1855. Desde entonces, los poblados en la región del lago han sido "estaciones de vía" con dos períodos breves de prosperidad, uno cuando los franceses trabajaban cerca de ellos y el otro cuando los norteamericanos realizaban sus operaciones.

La región en la cual esos poblados del lago estaban situados probablemente no se inundará antes de agosto de 1912, pero el carril del tren será desmantelado en febrero y por esto los caseríos nativos y los poblados norteamericanos del canal están siendo mudados, las casas desmanteladas para ser armadas en otros lugares, o en el caso de los bohíos, tan sólo abandonados en la jungla. Es difícil persuadir a algunos de los habitantes de que la inundación se va a realizar. Un viejo poblador, luego de recibir varias advertencias, se asió de su opinión que el Señor había prometido nunca más inundar la tierra. Personas como esta serán ayudadas a mudarse pues los actuales caseríos quedarán aislados cuando se desmantele el ferrocarril y en caso de una creciente repentina del río, con el agua corriendo una vez se eleve el agua en el vertedero de Gatún, sería difícil rescatarlos.

Con esta eliminación de los caseríos del río y de una de las rutas comerciales históricas para el mundo, nada de valor desaparecerá; sólo algunos caseríos deshilachados, y cientos de bohíos aislados en la jungla; mientras la ruta del río dará paso al Canal, y el ferrocarril a una línea más recta y mejor fuera del área del lago y lejos de cualquier peligro de inundación.

(continuará . . .)



Atracadero de Gatún

El antiguo poblado de Gatún bordeaba el Río Chagres, como se ve en esta foto histórica tomada en 1907. Muchos de estos poblados fueron inundados cuando, durante la construcción del Canal de Panamá, la represa de Gatún represó el Chagres y formó el Lago Gatún.

Spillway
DEL CANAL DE PANAMA

GILBERTO GUARDIA F.
Administrador, Comisión del Canal de Panamá

JOSEPH W. CORNELISON
Subadministrador

WILLIE K. FRIAR
Directora de Relaciones Públicas

FRANKLIN D. CASTRELLON
Director Asociado

JANET G. LEN-RIOS
Directora Asociada

SUSAN K. STABLER
Editora Encargada

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1996

Historia canalera

Lago Gatún reclama viviendas de muchos tamaños y formas

El siguiente artículo, tomado del Récord del Canal del 6 de diciembre de 1911 nos habla de los poblados que serían cubiertos con agua con la creación del Lago Gatún después de la construcción de la Represa de Gatún. El artículo proporciona un panorama interesante de la historia del área del Canal de Panamá y de la vida en el Istmo durante los días de la construcción del Canal. Debido a su extensión, el artículo será publicado en cinco partes.

Segunda parte

Esta sección describe los tipos de edificaciones que se encuentran en los poblados que serán inundados con la creación del Lago Gatún. Del Récord del Canal del 6 de diciembre de 1911.

En las aldeas y la jungla hay tres tipos de edificaciones, además de los cuartos para los empleados del canal. De estos el más pintoresco y primitivo es la cabaña abierta en la jungla, que consiste de un techo de paja alzado a unos ocho pies sobre la tierra sobre varas de bambú. Allí una familia de los arbustos tiene su incongruente vivir, ya que esta casa de la jungla está a menudo a la vista de los trenes del ferrocarril, y dentro de esta uno ve los plátanos friéndose en una olla moderna sobre un brasero moderno, mientras el agua de beber se saca con una calabaza de una lata cuadrada de aceite de un galón de capacidad. Un tipo de vivienda un poco más avanzada es la bonita cabaña hecha de palos de bambú colocados muy cerca, a veces emparchada con lodo, y con un amplio techo de paja sobresaliente que cruje día y noche por las lagartijas y los bichos que en él se mueven. No hay de las cabañas nativas más sólidas, encontradas en los poblados en el interior de Panamá, construida sobre bloques de barro y cubiertas con techos sobresalientes de tejas. El tercer tipo de casa, aunque más moderna, no podría ser considerada un adelanto a la cabaña de bambú. Está construida de madera y cubierta con techos de hierro corrugado. Los viejos residentes del Istmo dicen que este tipo se debe a lo fácil que es robar madera e hierro para techos, que fueron abandonados en depósitos y edificios aislados por los constructores del canal francés, y que era desconocido antes de 1885. Usualmente estos edificios han sido encontrados emparchados con piezas de cajas de jabón o aluminio de viejas latas aplastado, lo que les da una imagen abigarrada. Las tiendas de los poblados son un poco mejor que este tipo de vivienda. Aquí y allá uno puede ver un poblado de estas casas indescriptibles, las pequeñas chozas aseadas construidas por los franceses y recientemente usadas por los americanos; y los cuartos más aireados y bien protegidos del período del Canal americano. Estos, sin embargo, son adiciones tardías. Los poblados originales fueron asentamientos de la jungla que nacieron debido al tránsito ístmico.

(Continuará)





Primeras casas

Arriba, bordeando la jungla, se pueden observar varios tipos de casas en esta foto de 1912 de Chagres, poblado ubicado en la boca del Río Chagres. La comunidad incluía bohíos abiertos con techos de pencas, una casa blanca de apariencia fuerte con techo de zinc y hogares construidos con maderos y techos de pencas. A la extrema izquierda se encuentra la letrina de la villa. En la foto de la izquierda, una familia descansa a la entrada de su modesto hogar, un bohío de quincha que será arrasado por el agua con la creación del Lago Gatún.

Doctores advierten sobre diversos peligros al combinar medicamentos

Por los Dres. Dodge y Lorna Engleman

Muchas personas toman medicinas recetadas para aliviar condiciones crónicas, tales como presión alta, o problemas temporales, como infecciones. La efectividad de las medicinas recetadas puede verse afectada por muchas cosas. Las personas que toman medicinas recetadas deben recordar que muchos factores contribuyen a la efectividad del medicamento.

Hora del día

Es mejor tomar algunas medicinas por la mañana (como la mayoría de los tratamientos hormonales), y otras de noche (como las medicinas que bajan el colesterol). Algunas pueden ser tomadas a cualquier hora, pero se deben tomar a la misma hora todos los días. Muchas medicinas no se deben tomar con el estómago lleno (como algunos antibióticos) y otras medicinas requieren que se haya ingerido comida (como los anti-inflamatorios para eliminar el dolor).

Interacción entre drogas y comida

Un cambio en la dieta puede afectar los niveles de sangre de algunos medicamentos. Aún comidas comunes, como la toronja, pueden causar problemas si se toman de repente en grandes cantidades. Otras comidas que pueden ser problemáticas son los vegetales de hojas verdes, comidas altas en fibra, suplementos de fibra y substitutos de sal que son recomendados para las personas con presión alta.

El alcohol merece cuidado especial. Algunas medicinas (como aquellas para el resfriado y los tranquilizantes) no deben tomarse por personas que hayan ingerido alcohol. También es preferible no ingerir alcohol si se toman otras medicinas (como antibióticos), pero, aún después de algunos tragos, es mejor tomar la medicina que dejar de tomarla.

Otras drogas recetadas

Si un doctor receta una medicina, es importante que el paciente informe al doctor acerca de otras medicinas que pueda estar tomando. Algunos anti-inflamatorios tomados para molestias en la espalda o antiácidos tomados para la indigestión, por ejemplo, pueden interferir con la efectividad de los medicamentos que un doctor pueda recetar para la presión alta o para diluir la sangre.

Medicamentos sin receta médica

Aún cuando estos medicamentos no son recetados por un doctor, siguen siendo medicamentos y pueden producir resultados negativos. Si son tomadas incorrectamente, las drogas automedicadas pueden tener un efecto adverso en la salud del paciente a través de la interacción con otros medicamentos o sobre la misma condición del paciente.

La mayoría de los medicamentos que se venden sin recetas tienen advertencias impresas en sus envases. Aunque estas advertencias pueden estar escritas en letras pequeñas y difíciles de leer, los pacientes deben hacer el esfuerzo de leerlas. De especial cuidado son algunas medicinas para el resfriado, medicamentos contra la picazón y contra la náusea, y suplementos de hierro y vitamínicos. Por ejemplo, algunas drogas que se venden sin receta tienen un alto contenido de sodio lo cual puede afectar la presión arterial. Además, las pacientes embarazadas no deben tomar medicina alguna sin consultar a su doctor.

Infusiones y medicinas naturales

Muchas personas olvidan que las infusiones y medicinas naturales son medicamentos, y las mismas advertencias se aplican a ellos. Por ejemplo, un paciente que bebe un té natural para bajar el nivel de azúcar en la sangre y al mismo tiempo toma medicina para la diabetes puede terminar en coma. De la misma manera, tomar infusiones naturales para bajar la presión arterial mientras toma medicinas para la presión alta puede producir desmayos, daños al riñón y un derrame.

Las personas pueden prevenir interacciones medicinales potencialmente peligrosas consultando con sus doctores antes de combinar medicinas automedicadas, infusiones naturales o de dieta con medicamentos recetados.

Pague sus cuentas

No pagar deudas puede traer problemas

El Código de Conducta del Empleado de la Comisión del Canal de Panamá requiere que los empleados paguen sus deudas a tiempo, pues no hacerlo puede resultar en acciones disciplinarias. Aunque los acreedores no pueden embargar los salarios de empleados de la Comisión, la ley panameña les permite confiscar automóviles, cuentas bancarias u otras propiedades al deudor o su fiador. También es importante recordar que los deudores y fiadores son igualmente responsables por el pago de la deuda. Un acreedor podrá tomar acción contra el deudor o el fiador o ambos durante el proceso de cobro.

Una de las muchas consecuencias desagradables de no cumplir con sus obligaciones financieras es la pérdida de oportunidades de crédito por otros empleados de la Comisión. Una institución crediticia que tenga malas experiencias con préstamos a empleados de una organización podrá negar crédito a todos los empleados de esa organización.

Se recuerda a los empleados que cumplir con el pago de impuestos, hipotecas, alquileres y otras obligaciones financieras, y utilizar su crédito inteligentemente puede evitarles problemas legales y acciones disciplinarias.

1996

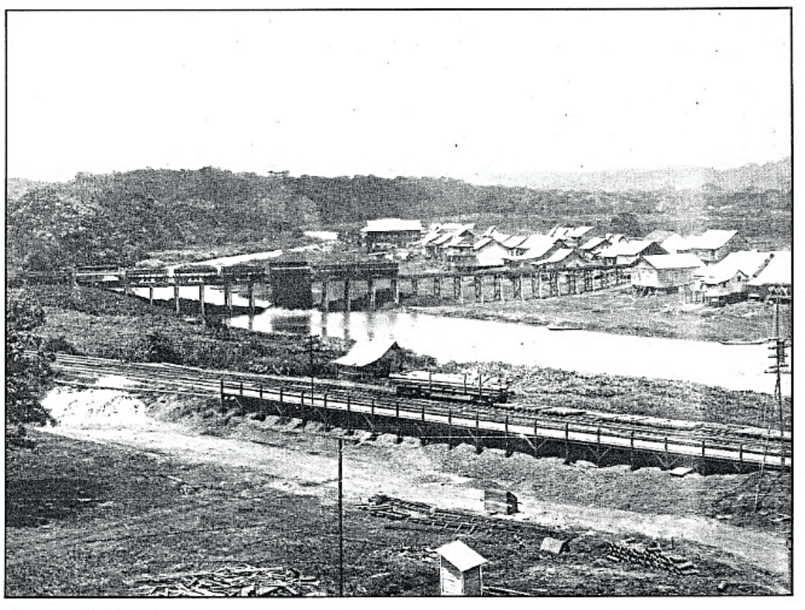
Historia canalera

Represa de Gatún sepulta poblado en ribera del Chagres

El siguiente artículo, tomado del Récord del Canal del 6 de diciembre de 1911, trata sobre los poblados que serían cubiertos por el agua con la formación del Lago Gatún luego de la construcción de la Represa de Gatún. El artículo ofrece una perspectiva interesante de la historia del área del Canal de Panamá y la vida en el Istmo durante la época de la construcción. Por su longitud, el artículo se publicará en cinco partes.

Tercera parte

Aquí, el autor comienza a describir individualmente los poblados que serían destruidos por la formación del Lago Gatún, empezando con el poblado de Gatún.



Bloquean el Chagres

El 10 de agosto de 1907, una cortina de tierra cae de un vagón de ferrocarril, colocado en un puente que se extiende a través del Río Chagres en el primer poblado de Gatún, para aumentar el ya crecido terraplén que bloqueará el río en la ubicación aproximada del vertedero de la Represa de Gatún y de las Esclusas de Gatún.

El viejo poblado de Gatún, en las riberas del río bajo el poblado actual, fue abandonado en 1908, y el sitio está ahora cubierto por 80 pies de roca y tierra bajo la Represa de Gatún. Al ser abandonado, el poblado tenía una iglesia, una casa cural, escuela, una docena de pequeñas tiendas, y noventa o más pequeñas casas de todo tipo, desde chozas de bambú con techo de pencas, hasta la típica choza con techo de metal. La mayoría de las edificaciones fueron mudadas a su nueva ubicación, ahora conocida como Nuevo Gatún. La vía del ferrocarril también atravesaba el lugar de la represa y tan pronto como se abrió la actual vía a Gatún, esta también fue abandonada, y el edificio de la estación fue demolido. Para mediados de 1909 los últimos vestigios del viejo poblado ya habían desaparecido ante el inminente trabajo en la represa.

La antiguedad del lugar es incierta, porque ninguno de los edificios era de mampostería. En su narrativa sobre la llegada del pirata Morgan a Panamá en agosto de 1670, Esquemeling dice: "El primer día sólo navegaron seis leguas y llegaron a un lugar llamado De Los Bracos. Aquí, un grupo de sus hombres llegó a la orilla sólo a dormir y a estirar sus cuerpos, ya que estaban casi inválidos de estar echados, hacinados en sus botes. Luego de descansar un poco empezaron a buscar provisiones en la plantación vecina, pero no encontraron nada; los españoles ya se habían llevado todo lo que tenían".

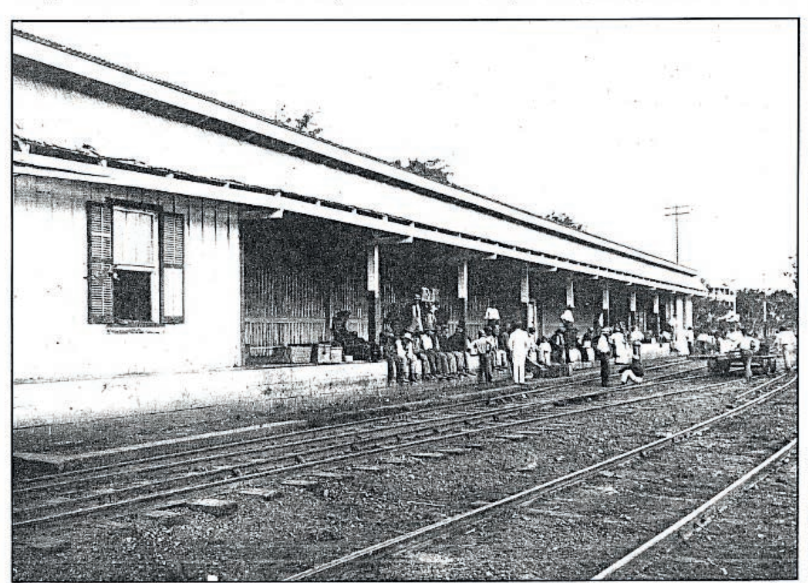
La ubicación en el río corresponde a la de Gatún, porque seis leguas españolas son equivalentes a nueve millas, y aún si la localización de De Los Bracos no es idéntica a la del viejo Gatún, la narrativa indica que la región de esos alrededores estaba más o menos habitada.

También se sabe que los españoles habían erigido un fuerte en la colina, 120 pies río arriba, con vista al poblado, que quizá fue uno de los puestos que habían establecido en varios puntos a lo largo de la ruta comercial istmeña. Evidencia del viejo fuerte se encuentra hoy y el lugar aparece en el mapa terrestre original hecho para el ferrocarril en 1855. En ese tiempo el poblado tenía alrededor de cien edificaciones de todos los tipos. Al escribir de eso en 1861, Otis dice que el poblado lo componían 40 ó 50 chozas de caña y palma. En los viejos tiempos de la inmigración californiana era la primera parada en el viaje en canoa por el Chagres, donde "numerosos grupos de viajeros hacia California paraban para refrescarse en su viaje río arriba, donde los huevos se vendían a cuatro por un dólar, y alquilar una hamaca costaba dos dólares la noche".

En 1881 los franceses escogieron Gatún como el lugar para una de las residencias canaleras, allí erigieron talleres y construyeron un número de barracas para trabajadores, llamando a la nueva sección "Cité de Lesseps". Este continuó como el centro del trabajo de excavación hasta 1888 cuando todas las operaciones cesaron, para ser retomadas en 1904.

Cuando los americanos llegaron en 1904, Gatún era el centro de un intercambio comercial fluvial. Bananas y otros víveres de los ríos Gatún, Trinidad, y Chagres eran traídos por tren para su venta. Una vez a la semana se embarcaban de siete a nueve vagones de bananas y al día hasta cien canoas arribaban a Gatún.

(Continuará...)



La vieja estación de Gatún

Los pasajeros del ferrocarril se acomodan dentro de lo posible, sentándose en carros de ferrocarril, con las piernas colgando sobre el borde de la estación, y hasta sentándose en los mismos rieles del ferrocarril, en esta foto de 1906 de la estación del tren ubicada en el primer poblado de Gatún.



Spillway
DEL CANAL DE PANAMA

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1996

Historia canalera

Río Chagres inunda sitio de construcción de represa francesa

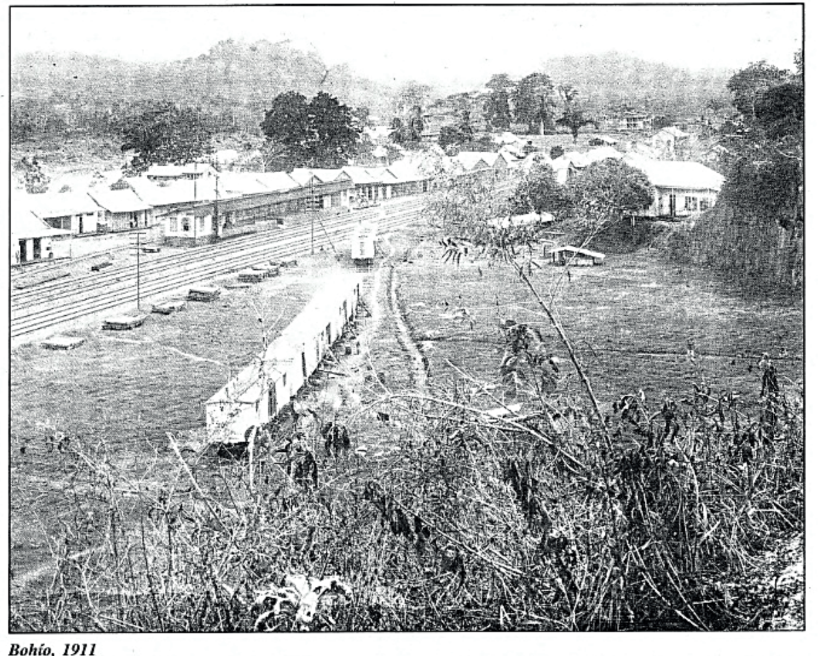
El siguiente artículo, tomado del Récord del Canal del 6 de diciembre de 1911, relata sobre los poblados que serían cubiertos por el Lago Gatún luego de la construcción de la Represa de Gatún. El artículo ofrece un panorama interesante de la historia del área canalera y la vida en el Istmo durante la construcción del Canal. Por su longitud, el artículo será publicado en cinco partes.

Cuarta parte

De Gatún en adelante, el autor continúa describiendo los aspectos significativos de los poblados que serían cubiertos por el agua durante la formación del Lago Gatún.

El siguiente poblado de importancia río arriba de Gatún es Bohío. Entre estos dos poblados, hay tres establecimientos, Cerro León, Cerro Tigre y Ahorca Lagarto, ninguno de ellos de más de media docena de chozas y sin ninguna razón aparente de existir, excepto porque algunos negros o nativos se establecieron allí. Los dos primeros son esencialmente campamentos del ferrocarril que se han mantenido desde 1851, cuando constituyeron exitosamente la terminal del ferrocarril. Sin embargo, Ahorca Lagarto está en un recodo del río y muy bien pudo haber sido un lugar de descanso para los apretujados viajeros en canoas. Del origen de su nombre, Otis dice: "Ahorca Lagarto deriva su nombre de un atracadero en el cercano Chagres; también fue llamado así, años atrás, por haber sido un campamento de tropas del gobierno que suspendieron de un árbol un banderín del cual colgaba un lagarto, emblema de la Orden de Santiago". En 1908 tenía sesenta y dos habitantes.

Los franceses lo convirtieron en el sitio de una de sus oficinas centrales de distrito en 1862.



Bohío, 1911
En 1911, río arriba desde Gatún, el poblado de Bohío se extiende a lo largo de la vía del ferrocarril, incluyendo casas de dos pisos como la que se ve a lo lejos. Con el paso continuo de los trenes, el poblado parecía floreciente, a diferencia de otros poblados menos desarrollados en el área.

Bohío parece haber sido otro poblado rodeado de maleza en 1862 cuando Otis escribió. Hasta hace poco ha sido llamado Bohío Soldado. Los franceses lo convirtieron en el sitio donde estaba ubicada una de las oficinas principales del distrito en 1862, erigieron una estación del tren en la orilla oeste del río y realizaron trabajos considerables trabajo bajo el viejo plan de un canal a nivel, que fue excavado en este lugar a suficiente profundidad para botes de poco calado. Aquí, al igual que en cualquier otro lugar se puede ver hoy el plan del canal a nivel, que incluía el canal principal y dos grandes desvíos o zanjas de drenaje, una a cada lado del propio canal.

Bajo el plan francés para el canal de esclusas, Bohío era el lugar para la primera represa, y la excavación para las esclusas en este punto puede verse en uno de los cerros en el lado opuesto del río desde el ferrocarril. Como ha existido durante el régimen americano, la aldea ha sido una reliquia del periodo francés. Las inspecciones, investigaciones y excavaciones que fueron necesarias aquí fueron hechas por hombres que ocupaban las casas francesas. En años recientes Bohío ha sido centro de un pequeño comercio local de vegetales, traídos de la jungla por canoa y por animales de carga, en intercambio por víveres y licores vendidos en tiendas de chinos y nativos. Para el tiempo del censo oficial en 1908, tenía 526 habitantes.

En Bohío los americanos llevaban a cabo investigaciones en 1904 y 1905 para determinar si el lugar podía ser usado para esclusas y una represa, y en 1909 se realizó una excavación a mano y con pala de vapor para remover un pequeño cerro y parte de un lugar de desechos construido por los franceses, el cual estaba en el prisma del canal. Al otro lado del río, donde los franceses en su tiempo habían situado los talleres, y donde se realizaba el trabajo para la instalación de las esclusas, el borde de un cerro está siendo ahora removido por un contratista. En este punto el trabajo que se realiza es típico entre el Corte Culebra y Gatún consistiendo en la excavación de pequeñas elevaciones en el cauce del Canal y en el nacimiento de los cerros que se proyectan hacia el prisma.

(Continuará)

Guardias de seguridad del Canal reciben premios



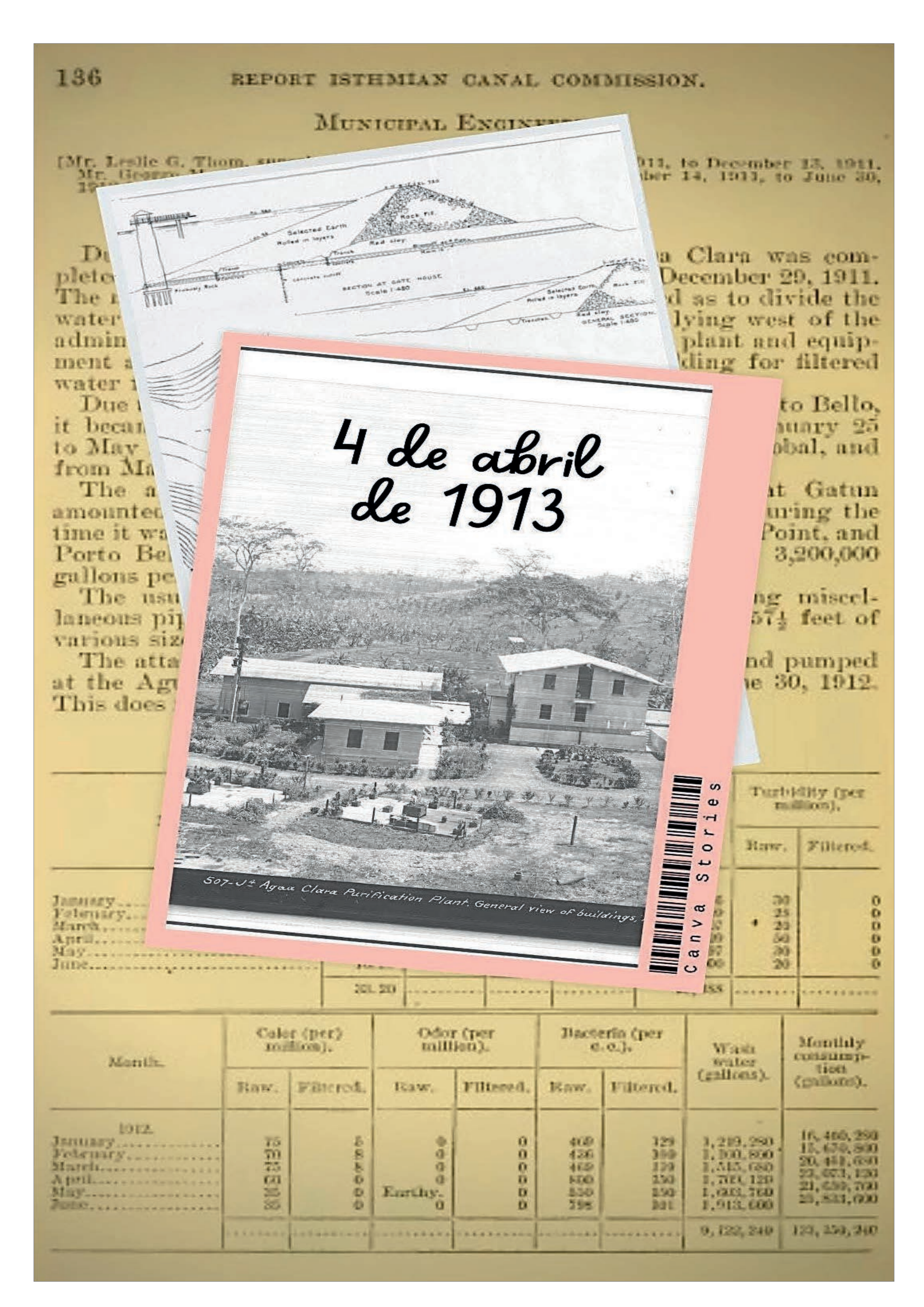


Muestran premios Fotos por Danny Uselton y Jaime Yau
Empleados de la División de Protección del Canal en el Distrito Norte, arriba, y más de 32 empleados del Distrito Sur, izquierda, muestran los premios por desempeño sobresaliente y superior que recibieron por su valiosa contribución a la organización del Canal durante 1995.

1996


Edificios 297-298
2022
Gatun Water Works 1910
GATUN
WATER WORKS
FEB.1910.
La planta potabilizadora
de Agua Clara inicia
operaciones el 29
diciembre 1911


CONSTRUCTION AND ENGINEERING—ATLANTIC DIVISION. 127
fill was then carried up in layers a foot thick.
A concrete footbridge was constructed to the gate chamber.
crete.
items:
25 de julio de 1910
Diseño
Ubicación
Total fill .... cubic yards.. 166,000
Top soil .... do.... 1,200
Excavation in cut-off wall .... do.... 315
Concrete in cut-off wall .... do.... 370
Concrete in waste pipe, etc .... do.... 230
Piles in foundation of gate chamber .... do.... 36



507-J± Agua Clara Purification Plant. General view of buildings,

Month.	Color (per million).		Odor (per million).		Bacteria (per c.c.).		Wash water (gallons).	Monthly consumption (gallons).
	Raw.	Filtered.	Raw.	Filtered.	Raw.	Filtered.		
1912.								
January	75	5	0	0	469	129	1,219,280	16,466,280
February	70	8	0	0	436	169	1,100,800	15,670,800
March	75	8	0	0	469	129	1,515,680	20,461,680
April	60	6	0	0	800	150	1,701,120	23,073,120
May	35	0	Earthy.	0	830	150	1,693,760	21,639,700
June	35	0	0	0	798	101	1,913,600	25,831,600
							9,122,240	123,150,240


REPORT OF RESIDENT ENGINEER—MUNICIPAL ENGINEERING. 129
SECTION AT GATE HOUSE
Scale 1:480
GENERAL SECTION
Scale 1:480
Agua Clara.
Rainfall.
4 de abril
de 1913
The level
Edificio por dentro
63399°—14——9


Polish, Italian, French and Mexican workers at the Packard plants in Chicago and Detroit were surprised and pleased when comely globe-trotting Congresswoman Clare Booth Luce, of Connecticut, recently chatted with them in their own languages, during a recent fact-finding tour by House Committee on Military Affairs. She's pictured talking to Charles Turner, Purple Heart war veter... an aircraft engine work...

EARL OF CHICA... NNER TAKES AL... TOMORROW! 10 a.m. to 10:30 p. ...n GARFIELD FARMER in ...WING GOLD ...d G. ROBINS... - in - ...AZING DR. ...TEROUSE" ...mount News Also: ...in Prizes ...at 5 p.m. a... ...t 9 p.m. ...ices: ...& 10c.

From 10:00 a.m. to 10:30 p.m.

SPRINGTIME IN THE ROCKIES
THE CISCO KID AND THE LADY
TOMORROW
Clark GABLE and Wallace BEERY in
"HELL DIVERS"
Joseph CALLEIA in
'MAN OF THE PEOPLE'
FOX NEWS

Man, Old at 40, gets New Youth Quickly

...Mount Hope ...been greatly expanded and after the Agua Clara plant is abandoned all Atlantic side communities will be serviced from Mount Hope. For many years Gatun and Fort Sherman were serviced from Agua Clara.

The Agua Clara Filtration Plant was completed in 1911. A year earlier a pumping station has been completed at Agua Clara to furnish Gatun with raw water from the Agua Clara reservoir. Prior to that time Gatun had been serviced with a temporary water system from a pump station located on Gatuncillo River.

The existing filter plant at Agua Clara will be held in reserve for use in case of an emergency.

U S To Make

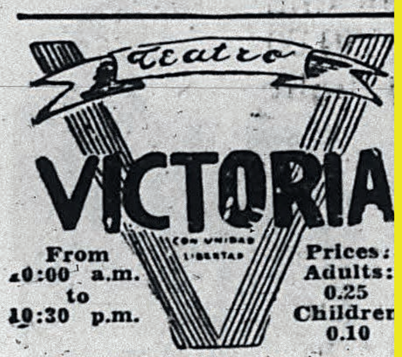
Ron Carta Vieja
Destilación Especial
Gmo Tribaldos Jr.
David Panamá
PANAMA'S LA...

29 de agosto de 1940

Polish, Italian, French and Mexican workers at the Packard plants in Chicago and Detroit were surprised and pleased when comely globe-trotting Congresswoman Clare Booth Luce, of Connecticut, recently chatted with them in their own languages, during a recent fact-finding tour by House Committee on Military Affairs. She's pictured talking to Charles Turner, Purple Heart war veteran now an aircraft

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LONDON, Feb. 16 (UP) — Two new earthquakes were recorded about 150 kilometers northwest of Ankara, Turkey, Radio Vichy said today.



Agua Clara Plant To Be Abandoned, Operated 30 Years

With the installation of the 30-inch duplicate raw water main from Gatun Lake to Mount Hope Filtration Plant completed, Agua Clara Filtration Plant, which has been in service for more than 30 years, will soon be abandoned, it was announced Tuesday at the Municipal Engineering Division offices.

Installation of the new raw water main brings the Mount Hope plant up to full filter capacity of 14,000,000 gallons daily, sufficient to meet consumption of all Atlantic side communities, it was stated.

Nearly three miles of cast iron pipe were installed. The new main duplicates a line already furnishing the Mount Hope Filter Plant. Installation of the main involved the construction of a low-level intake structure. Since the intake structure was located directly behind a hill from the line of the main a tunnel, approximately 480 feet long, was constructed through the hill. In addition to the excavation for the tunnel, which was cut six by eight feet to give access to the main, approximately 1,200 cubic feet of other excavation was done along the line.

Installation of the main was one phase of a general improvement of the water system on the Atlantic side. The filter capacity of the Mount Hope plant has been greatly expanded and after the Agua Clara plant is abandoned all Atlantic side communities will be serviced from Mount Hope. For many years Gatun and Fort Sherman were serviced from Agua Clara.

The Agua Clara Filtration Plant was completed in 1911. A year earlier a pumping station has been completed at Agua Clara to furnish Gatun with raw water from the Agua Clara reservoir. Prior to that time Gatun had been serviced with a temporary water system from a pump station located on Gatuncillo River.

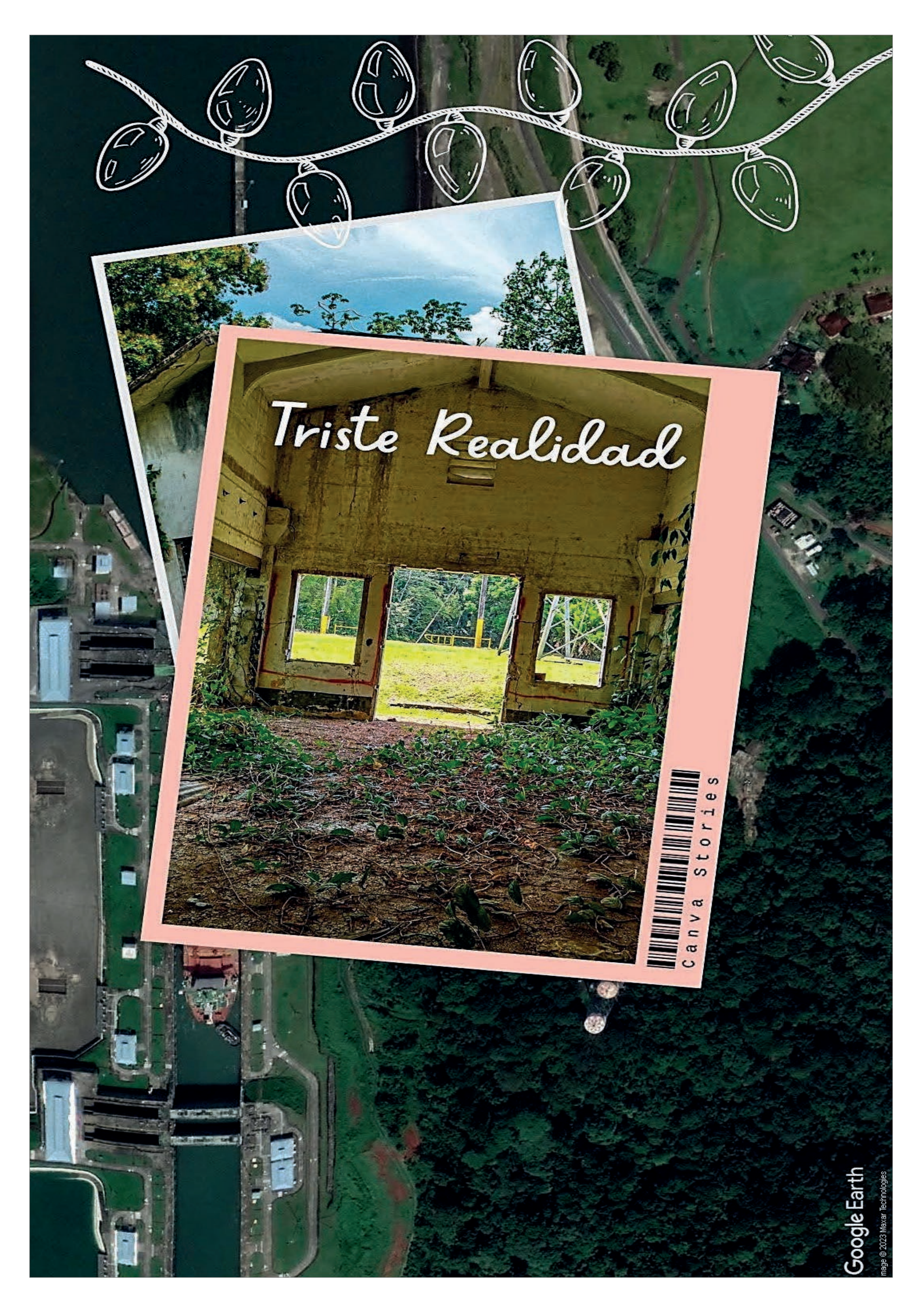
The existing filter plant at Agua Clara will be held in reserve for use in case of an emergency.

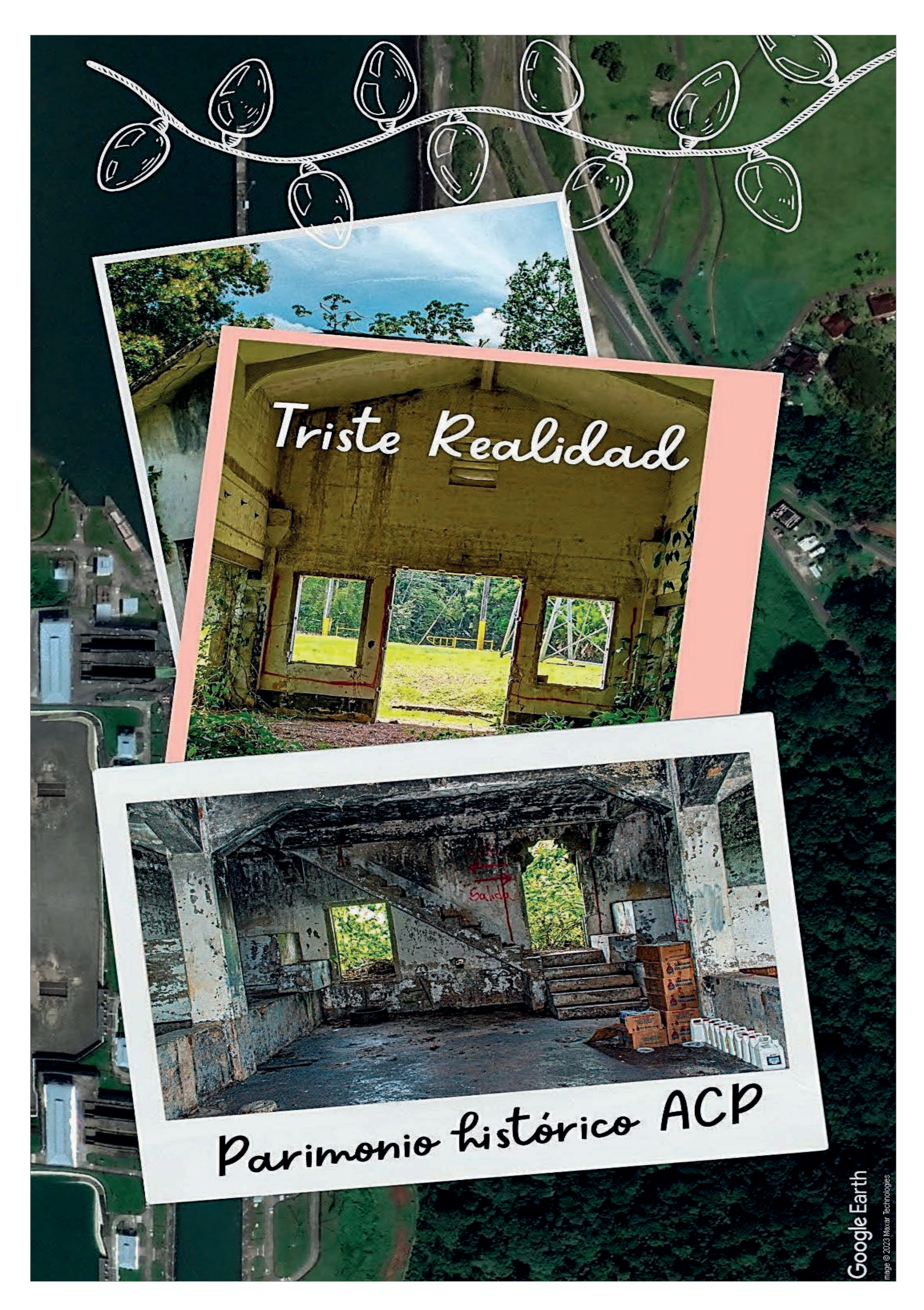
U. S. To Make






GATUN
WATER WORKS
FEB.1910.
17 de marzo de 2022
Google Earth
Image © 2023 Maxar Technologies


Triste Realidad
Canva Stories
Google Earth
Image © 2023 Maxar Technologies


Triste Realidad
Salida
Parimonio histórico ACP
Google Earth
Image © 2023 Maxar Technologies


© 2022 Jaime Massot Hernández
LA CULTURA ES LA MEMORIA DEL PUEBLO, LA CONCIENCIA COLECTIVA DE LA CONTINUIDAD HISTÓRICA, EL MODO DE PENSAR Y DE VIVIR.
Google Earth
Image © 2023 Maxar Technologies

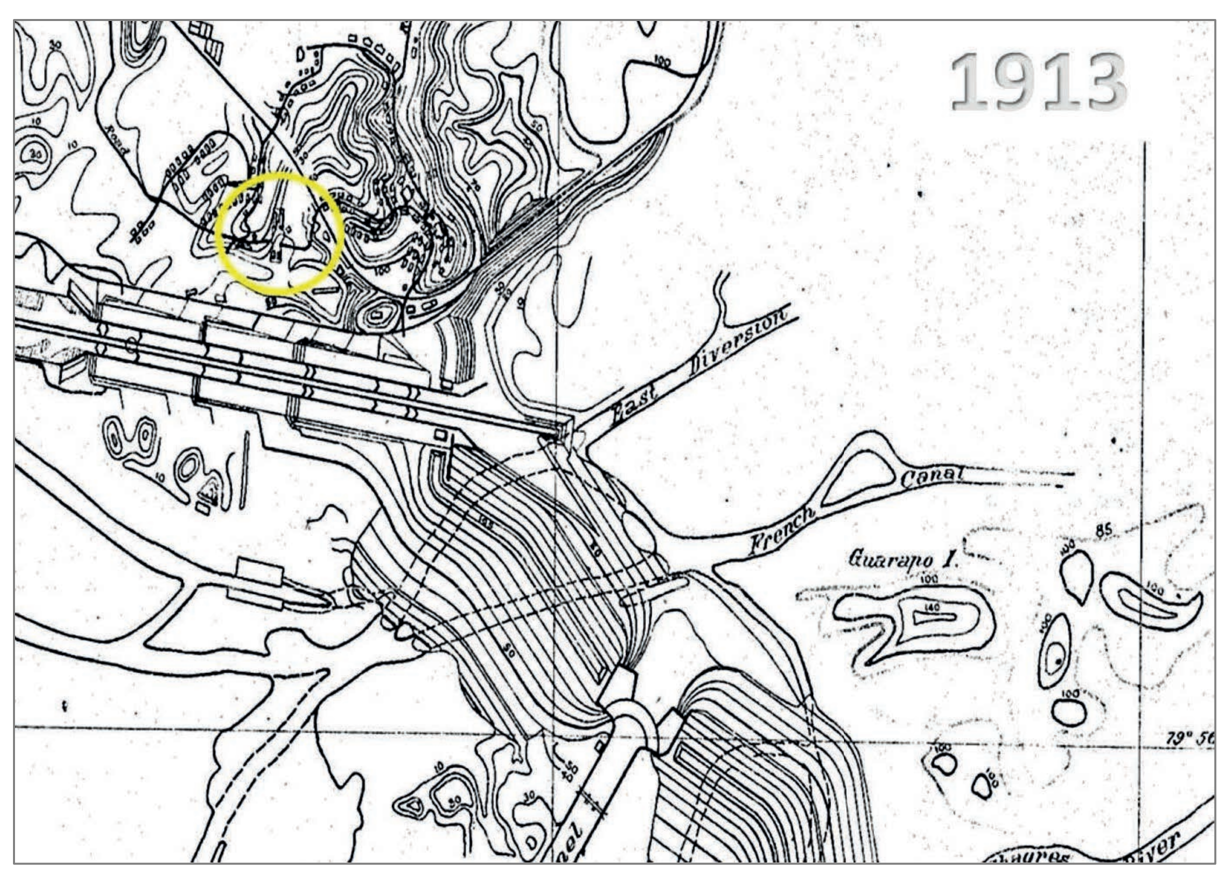
Barraca de trabajadores de la Nómina de Plata (1912-1913)

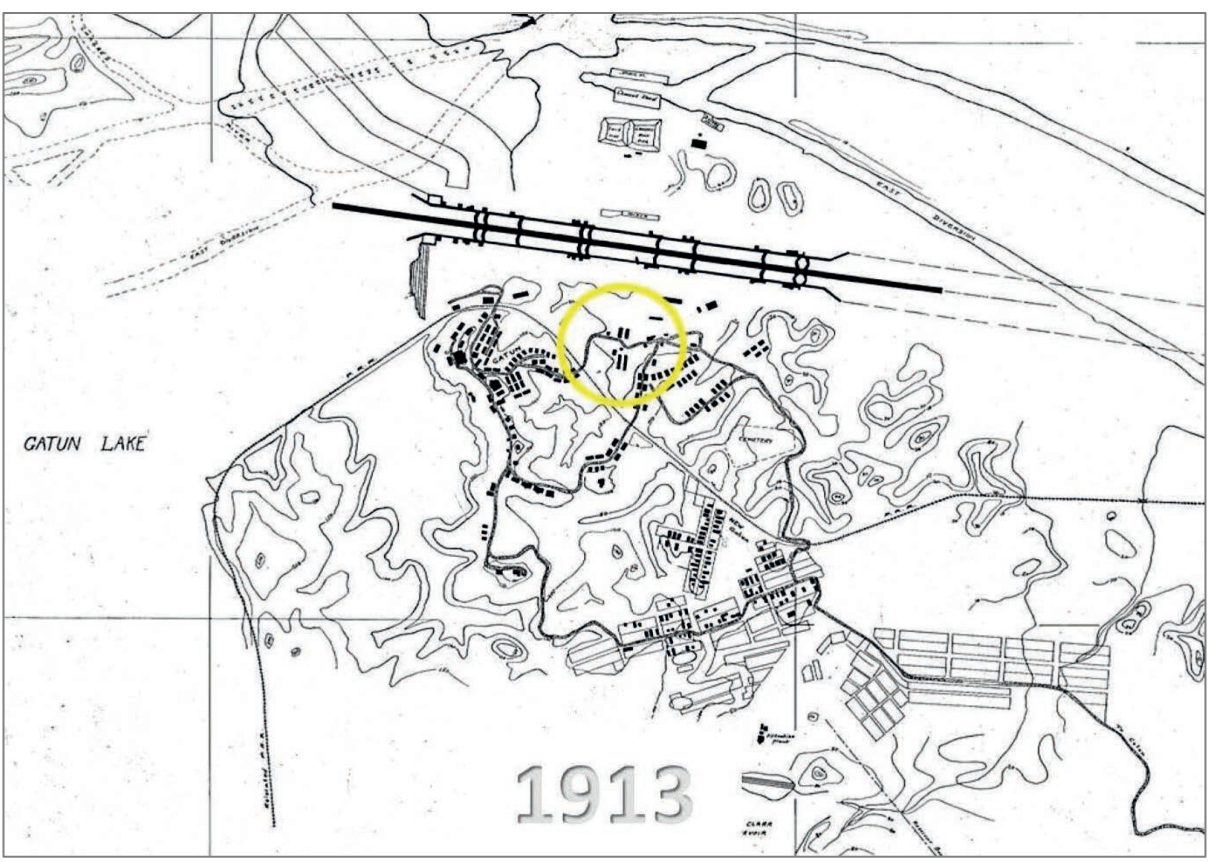
Construida entre 1912 y 1913. Es el único edificio de madera que aún se conserva de los cuatro colindantes (32, 33, 34 y 35) levantados durante el periodo de construcción del Canal de Panamá (1904-1914) y ubicados en el área. Estas edificaciones servían como residencias temporales para los trabajadores afroantillanos que participaron en la titánica obra canalera en el lado Atlántico a inicios del siglo XX.

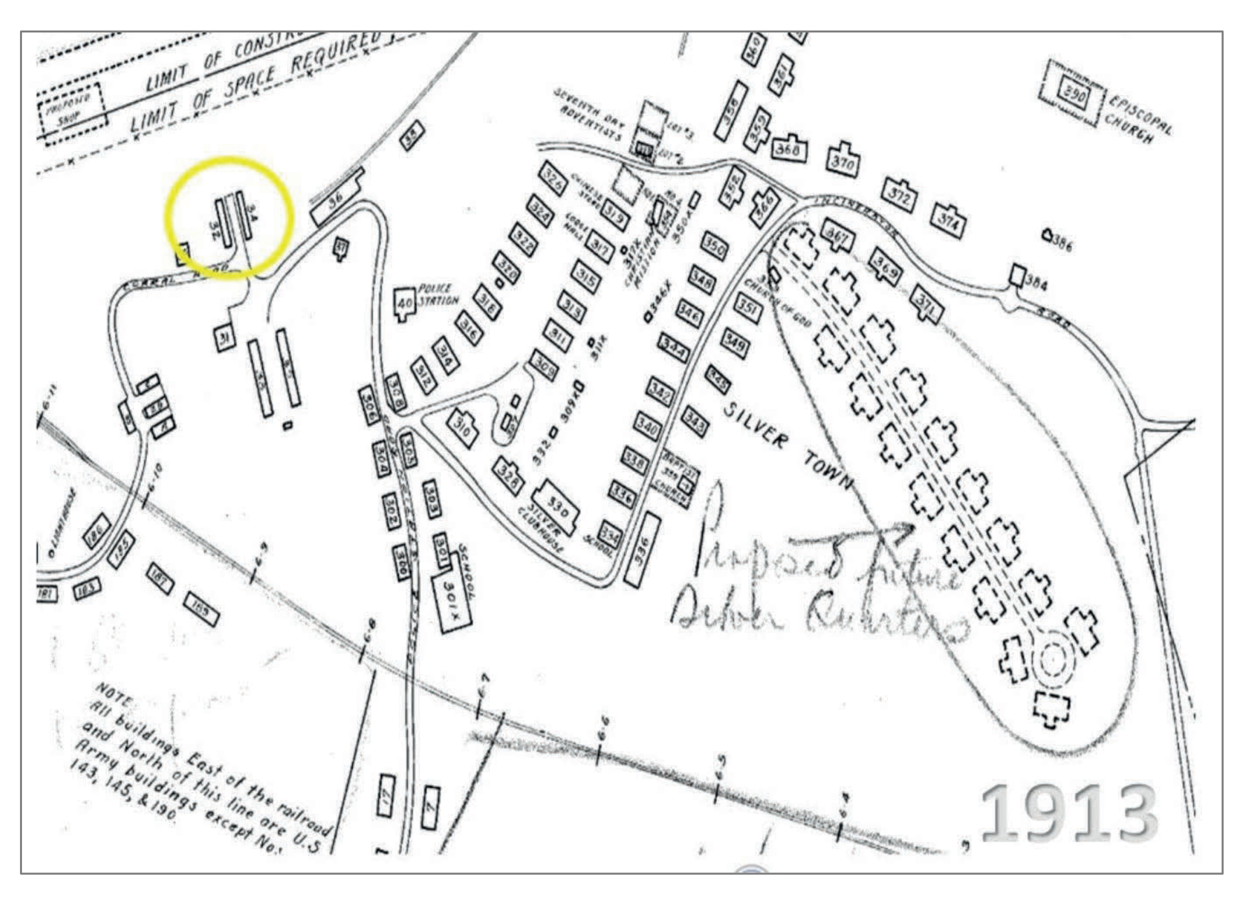
Edificada con materiales sencillos como piso de cemento, columnas y paredes de madera, y láminas de aluminio corrugado como techo, reflejaba no solo las condiciones de vida de la época, sino también la estructura social impuesta por el sistema de nóminas de Plata y Oro. Al tratarse de alojamientos temporales, no existen planos de su diseño original, los cuales comenzaron a generarse décadas después, cuando se realizaron mejoras. Representa un valioso testimonio histórico de la vida de los trabajadores de la Nómina de Plata y constituye un elemento clave en la memoria colectiva del Canal de Panamá. Su restauración es fundamental para preservar este importante patrimonio histórico-cultural de nuestra nación.



Mapa sobrepuesto en Google Earth Pro


1913
East Diversion
French Canal
Guarapo I.


GATUN LAKE
1913


LIMIT OF SPACE REQUIRED
SEVENTH DAY ADVENTISTS
EPISCOPAL CHURCH
POLICE STATION
SILVER TOWN
SILVER CLUBHOUSE
SCHOOL
Proposed Future Silver Quarters
NOTE:
All buildings East of the railroad and North of this line are U.S. Army buildings except No. 143, 145, & 190.
1913


1923

Orig nitrate neg destroyed
print copied 11 Sept 64.

1923

75

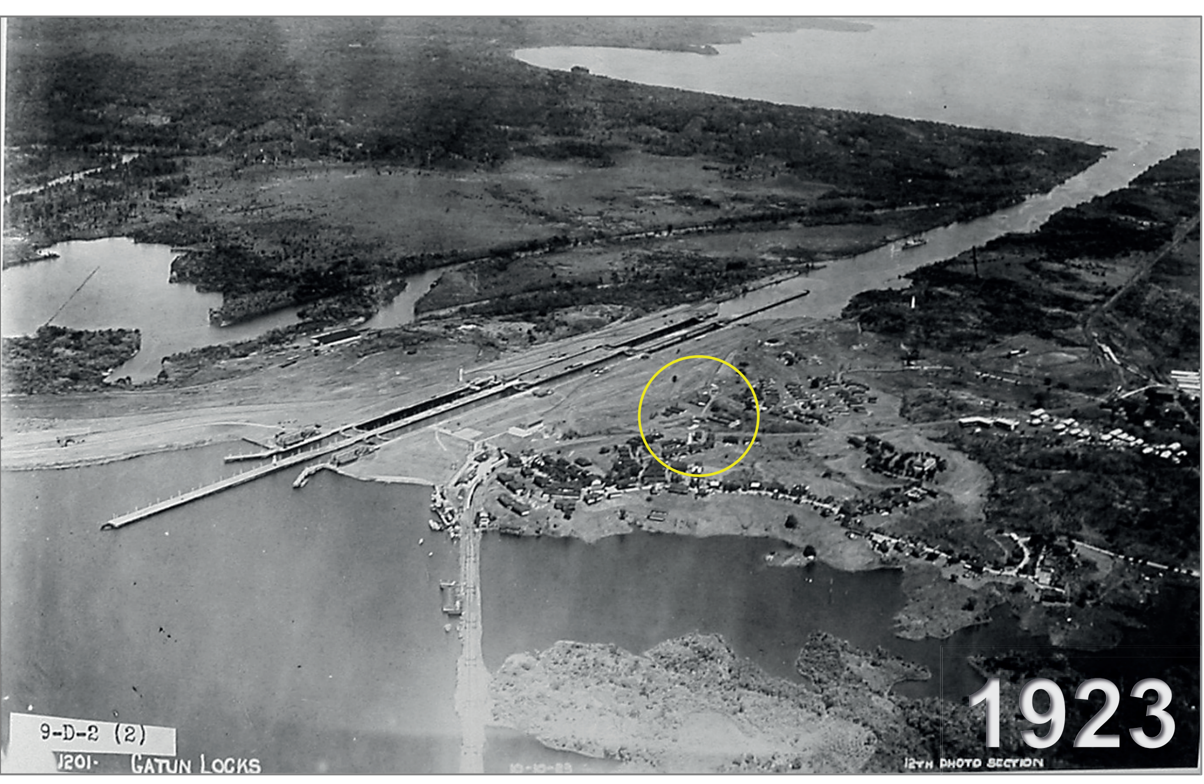
11024 AS

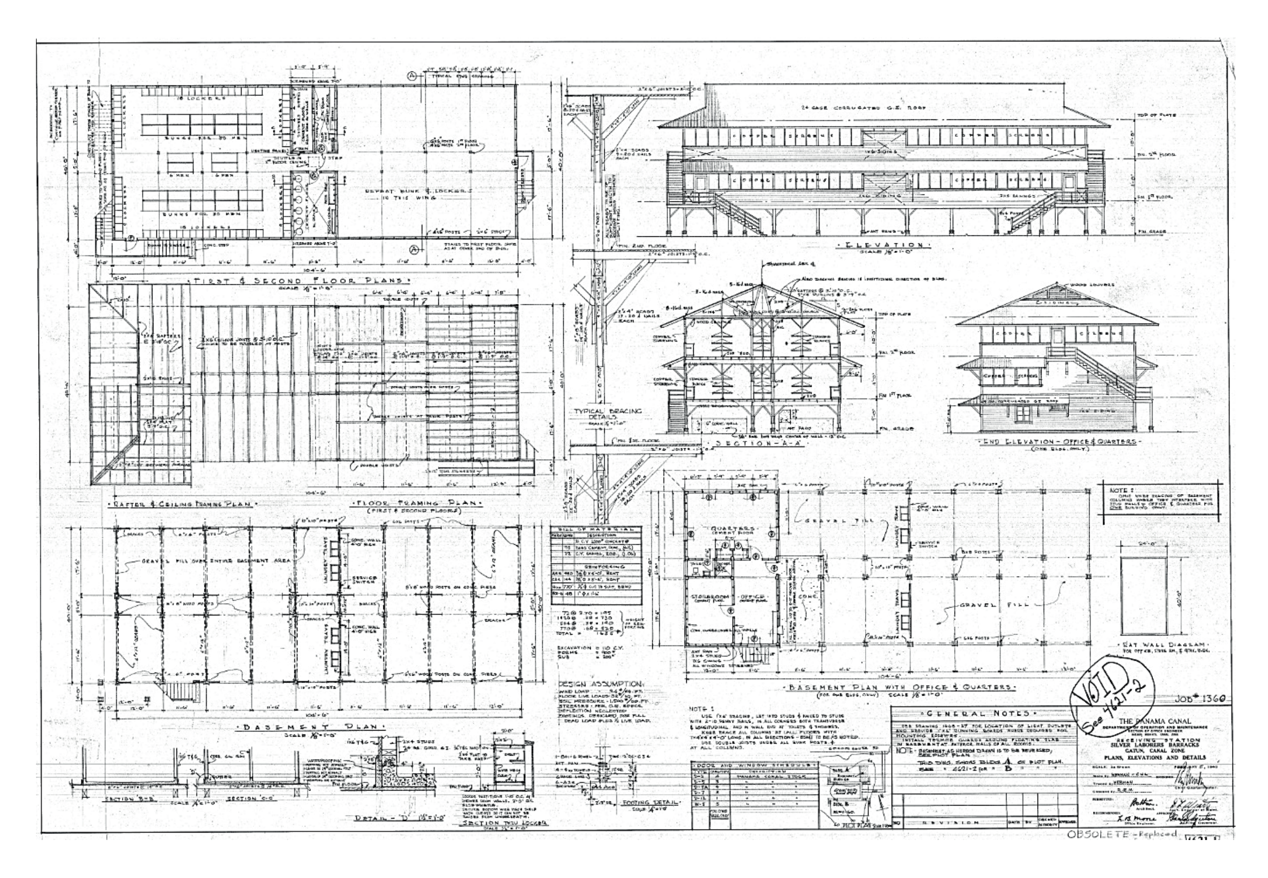
11024 TS

JAN 7 1927

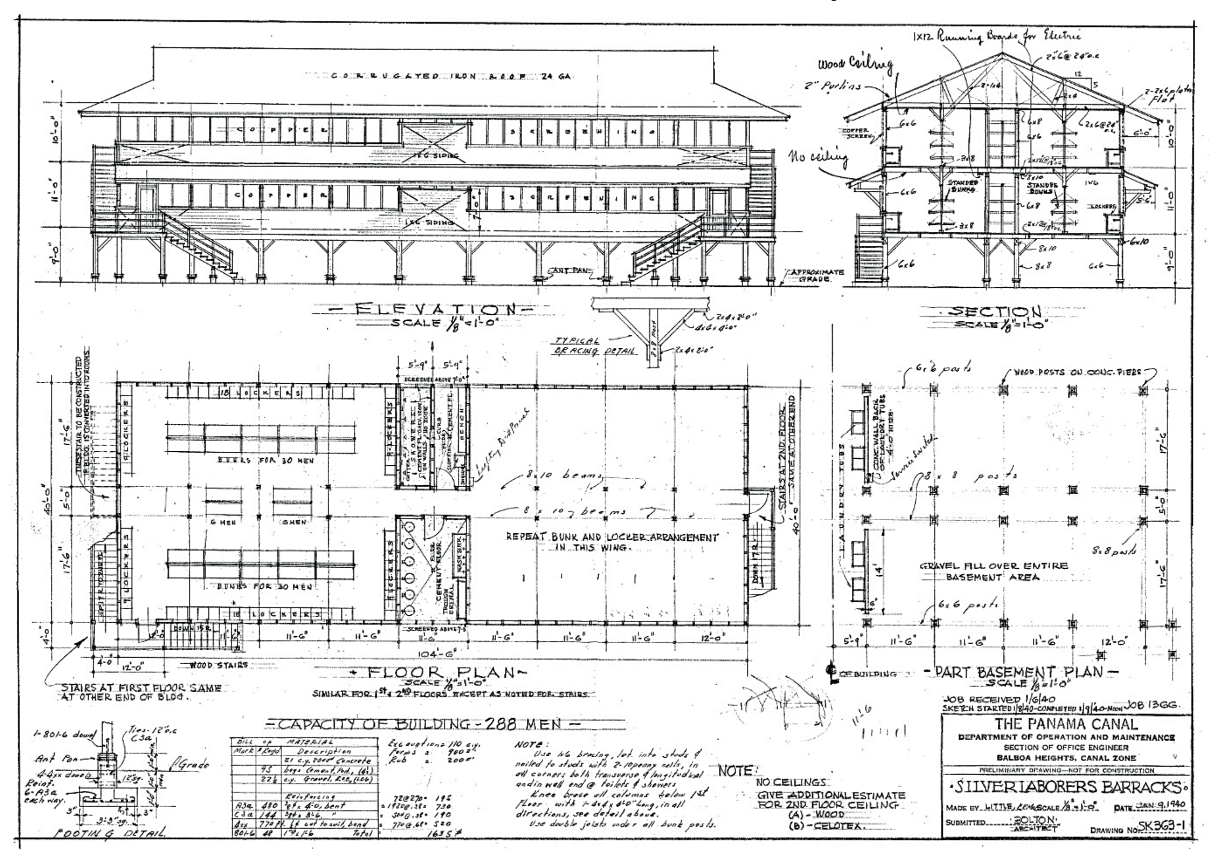
INDEXED UNCLASSIFIED

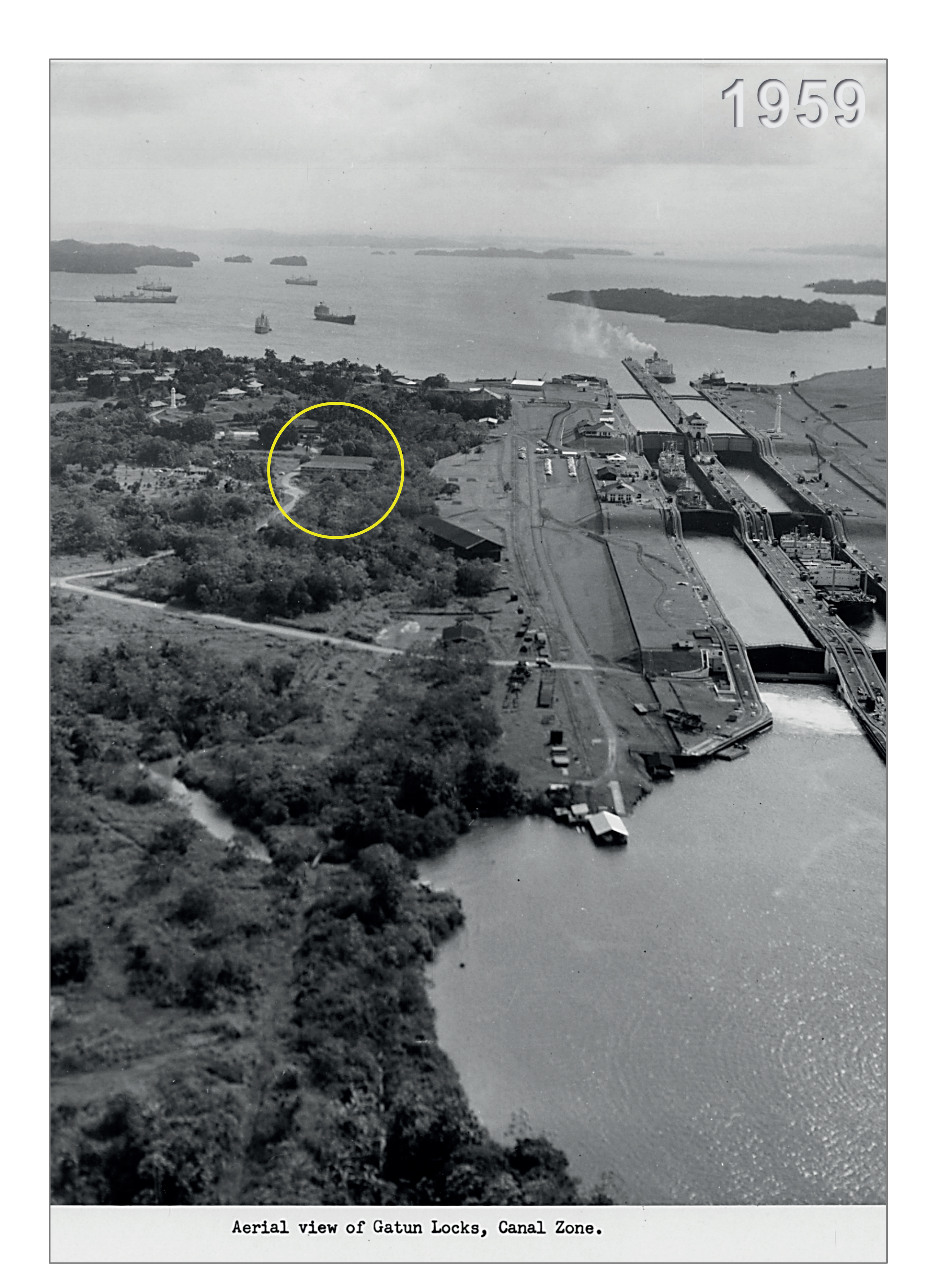
Gatun Locks and Spillway and Camp at Gatun, Canal Zone
(UNCLASSIFIED - per CAM-58-P-82 - 21 Dec. 1956 and 11 Feb. 1957 from AFOIN-1A2.)
12th Photo Sec., France Field, 5/29/23
Neg. No.1177





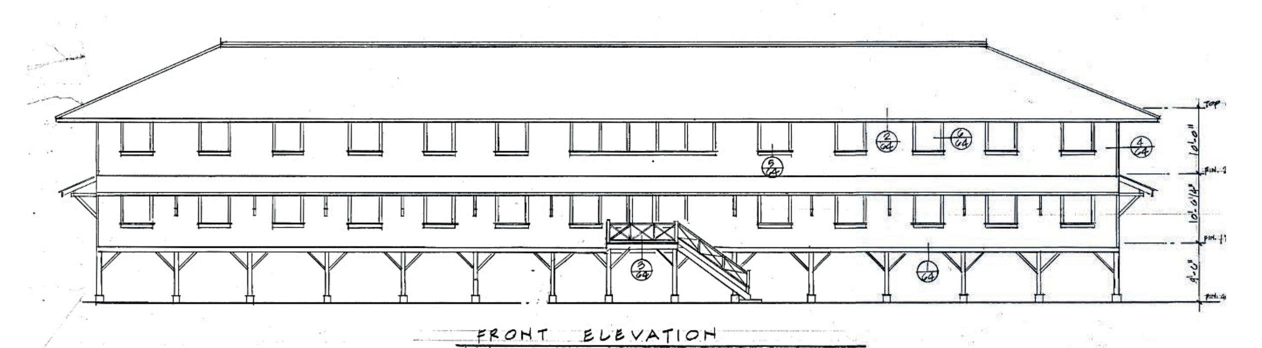
Silver Laborers Barracks - January 1940





Aerial view of Gatun Locks, Canal Zone.

POBLADO DE GATÚN
EDIFICIO 34





PARA USO OFICIAL UNICAMENTE
(ESTA SUJETA A CAMBIOS)

LISTA DE EDIFICIOS
AUTORIDAD DEL CANAL DE PANAMA
(ACTUALIZADO AL 1 DE MAYO DE 1999)

POR TRANSFERIR **EDIFICIOS QUE SERAN DE AER A PARTIR DEL AF 2001**

TOWN	BLDG	SQMETER	OWNER/ LOCATION	UNIT	CONSTRUC	USAGE	COMMENTS
GATUN	33	18.7	MR.MRL.003720	559870	Composite		Toilet East Side
GATUN	34	616.9	AE.AER.008288	200955	Frame		Temporary Quarters
GATUN	35	2,053.2	AE.AER.	206443	Composite	LOA	LOA 123- Personal Stor.
GATUN	382	315.9	AE.AER.008326	206763	Composite		Qtrs. District ECME
GATUN	385	11.9	EI.EIM.005051	206762	Composite		Toilets
GATUN	4	608.5	EI.EII.004300	211257	Composite	EIIP	Diving School/Equip.
GATUN	40	258.5	AE.AER.008326	200524	Masonry	ESCA	Police Station
GATUN	40-A	57.7	AE.AER.008326	538332	Composite	ESMS	GSAN Equip. Storage
GATUN	40-G	56.3	AE.AER.008326	582378	Masonry		Storage
GATUN	42	409.7	MR.MRL.003720	209760	Composite		Storage Shed
GATUN	42-X		AE.AER.008326	610223	Composite		Sanitations and Grounds
GATUN	43	TBD	MR.MRL.003720	518584	Masonry	MRL	Locomotive Pit Shelter
GATUN	44	319.0	AE.AER.008326	582379	Masonry		Control House
GATUN	440	TBD	EI.EIL.		Masonry	MRL	Building forTransformer & Switch Gear
GATUN	441-E	TBD	EI.EIL.		Masonry		TBD
GATUN	444-W	TBD	EI.EIL.		Masonry		
GATUN	44-A	22.6	MR.MRL.003720	543010	Masonry		Lockmaster's Office
GATUN	45	TBD	MR.MRL.003720	309812	Masonry	MRL	Locomotive Pit Shelter
GATUN	457-E	TBD	EI.EIL.		Masonry		
GATUN	46	668.5	MR.MRL.003720	209758	Masonry	MRLA	Machine Shop
GATUN	460-W	TBD	EI.EIL.		Masonry		
GATUN	46-A	80.3	AE.AER.008326	225075	Frame		Tourist Pavillion
GATUN	48	66.9	MR.MRL.003720	209750	Masonry	ESSW	Electric Shop
GATUN	49	1,393.6	AE.AER.008326	209761	Composite		Overhaul Storage Shed
GATUN	4-A	11.1	EI.EII.004300	211258	Composite	EII	Fuel & Paint Storage
GATUN	4-B	167.2	EI.EII.004300	211259	Composite	EII	Scuba&Equip. Storage
GATUN	4-C	46.5	EI.EII.004300	211260	Composite	EII	Hydro. & Oxy. Strg.
GATUN	5	111.7	AE.AER	TBD	COMPOSITE	AERF	Gatun Yatch Club
GATUN	50	1,282.6	MR.MRL.003720	614692	Composite	MRL	Ironworker Shop


2022


2022

AUTORIDAD DEL CANAL DE PANAMÁ
SISTEMA DE CONSULTA DE ACTIVOS FIJOS

Impreso: 3-JUN-2022 11:21 AM

INFORME DE DETALLE DEL ACTIVO

Abril 2022

Información Histórica

Activo	46		200955
Unidad de Negocio	80	Infraestructura e Ingeniería	
Categoria	80.CAP.050011	MATERIALES COMPUESTOS, PISO DE CONCRETO, COLUMNAS DE MADERA, PAREDES DE MADERA ETC.	
Ubicación	80.080036	EDIFICIOS AREA GATUN	
Función	804101	INOA Admón de Activos de Infraestructura	
Cuenta de Costo	108206	Edificios	
Asset_Key	200955.0000000		

Descripción

EDIFICIO 34, GATUN.

EDIFICIO 34, CON UN AREA DE 575.86 MTS2,
Y DIMENSIONES DE 12.19 MTS POR 47.24 MTS,
CONSISTENTE EN RESIDENCIA DE 2 NIVELES,
CON ESTRUCTURA DE MADERA, PISO DE MADERA
Y PAREDES DE MADERA Y TECHOS DE LAMINAS
DE ALUMINIO CORRUGADO.
CANCELACION EN LIBROS AUTORIZADA POR FM,
FMAC-882, 24/2/95.

Fecha en Servicio	1/1/2000	01-SEP-1940
Vida Util del Activo (Años / Meses)	000/01	025/00
Vida Util Transcurrida (Años /Meses)	22/4	
Vida Util Remanente (Años / Meses)	0/0	

Costo Original	0.00	52,025.23
Costo Actual	0.00	52,025.23
		20,303.99
		0.00
Depreciación Acumulada	0.00	31,721.24
Valor Neto en Libros	0.00	0.00

Identificación

Modelo

Serie

Fabricante



29 de junio de 2023

Señor Ricardo Gago Salinero
Presidente
Fundación NosaTerra
Ciudad

Estimado señor Gago:

Me es grato dar respuesta a su nota del 20 de junio de 2023, en la cual solicita que la Autoridad del Canal de Panamá (ACP) restaure el edificio 34 de Gatún que, según su nota, data del año 1910 y se utilizaba durante la construcción del Canal de Panamá, como barraca para los trabajadores de la nómina de plata, también conocida como "*silver roll*".

Al respecto, le informamos que luego de revisar nuestros registros históricos, hemos confirmado que el edificio 34 de Gatún no forma parte del conjunto original de los edificios asignados como barracas a los trabajadores de la nómina de plata durante la construcción del Canal. Actualmente, no existen los edificios originalmente asignados a los trabajadores antes mencionados.

Respecto al edificio 34 de Gatún que apreciaron durante su visita, debemos indicarle que esta edificación data del año 1940 y no cuenta con uso futuro para la ACP, por lo cual no está planificada su restauración.

Reciba un cordial saludo y nuestros deseos de continuo éxito en sus actividades.

Atentamente,

May Jane Coulson
Gerente de Gestión Administrativa
y Funcionaria de Ética
Oficina de Asuntos Corporativos

Autoridad del Canal de Panamá
Balboa, Ancón. Panamá, República de Panamá.
www.pancanal.com

PRESA, VERTEDERO E HIDROELÉCTRICA DE GATÚN

Fueron construidos entre 1907 y 1913 por el Cuerpo de Ingenieros del Ejército de los Estados Unidos, durante la fase más intensa de la construcción del canal interoceánico. Estas tres infraestructuras trabajaron en conjunto para controlar el caudal del río Chagres, crear el embalse (lago) de Gatún, y garantizar el funcionamiento eficiente del Canal de Panamá.

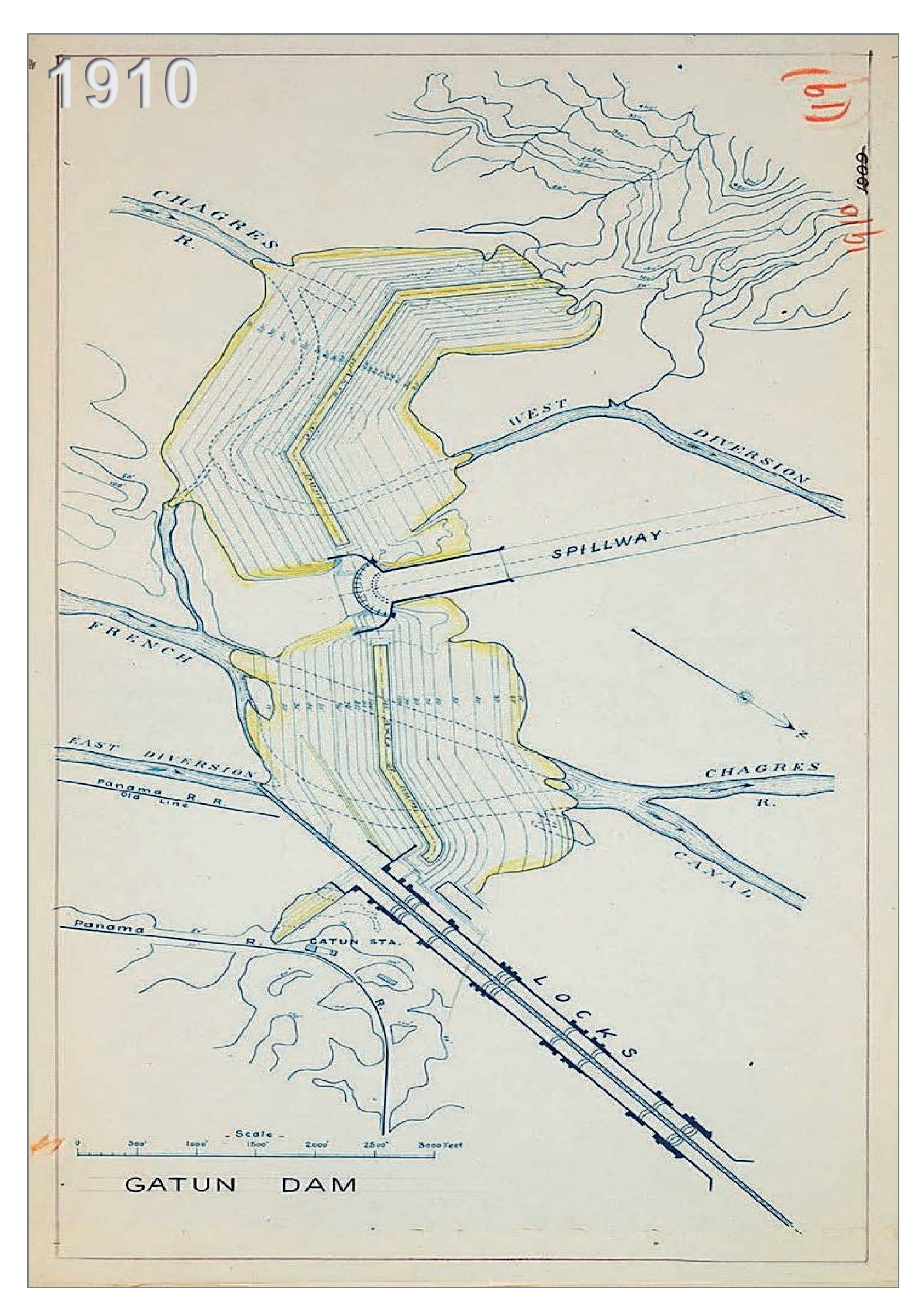
La presa de Gatún en la cuenca del río Chagres, a unos 10 kilómetros de su desembocadura en el mar Caribe. Mide aproximadamente 640 metros de largo y 30 metros de alto, y fue una solución ingenieril para almacenar el agua necesaria para operar las esclusas y permitir el tránsito de buques a través del canal. Sirvió, originalmente, como un puente para la vía férrea y posteriormente para la carretera que conecta ambas orillas del antiguo cauce del río Chagres de lo que se le denomina, coloquialmente, Costa Abajo (oeste) y Costa Arriba (este) de la provincia de Colón.

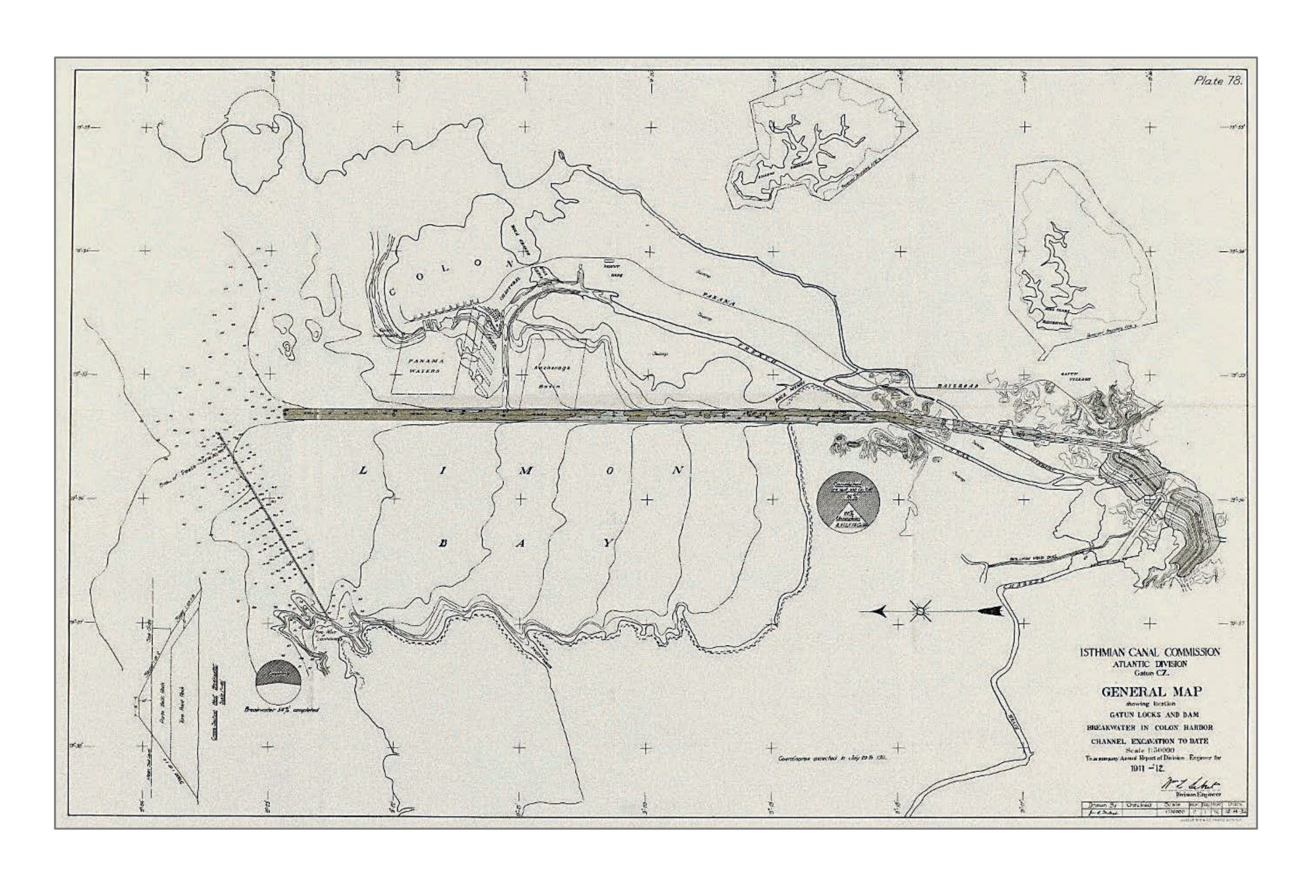
La presa incorpora una central hidroeléctrica, situada en el lado este del Canal de descarga del aliviadero. Esta utiliza el agua del lago para impulsar varios generadores de turbina, diseñados para operar eficientemente con un amplio rango de caudales y alturas de agua. Originalmente tenía tres generadores de tres MW cada uno. Posteriormente se instalan otros tres de cinco MW cada uno para un total de 24 MW (ver planos y fotos en las siguientes páginas). La energía generada se utiliza para el funcionamiento de las esclusas y el vertedero, así como para la iluminación de las esclusas y áreas operativas circundantes.

El vertedero, ubicado al lado de la presa, permite liberar de forma controlada el exceso de agua del lago, especialmente durante la temporada de lluvias e inundaciones. Tiene 14 compuertas de deslizamiento vertical que originalmente eran de 5.79 m de altura por 13.72 m de ancho, las cuales se controlan individualmente. Fueron extendidas en el 2011 como parte del Plan Maestro del Canal de Panamá hasta una altura de 6.25 m.

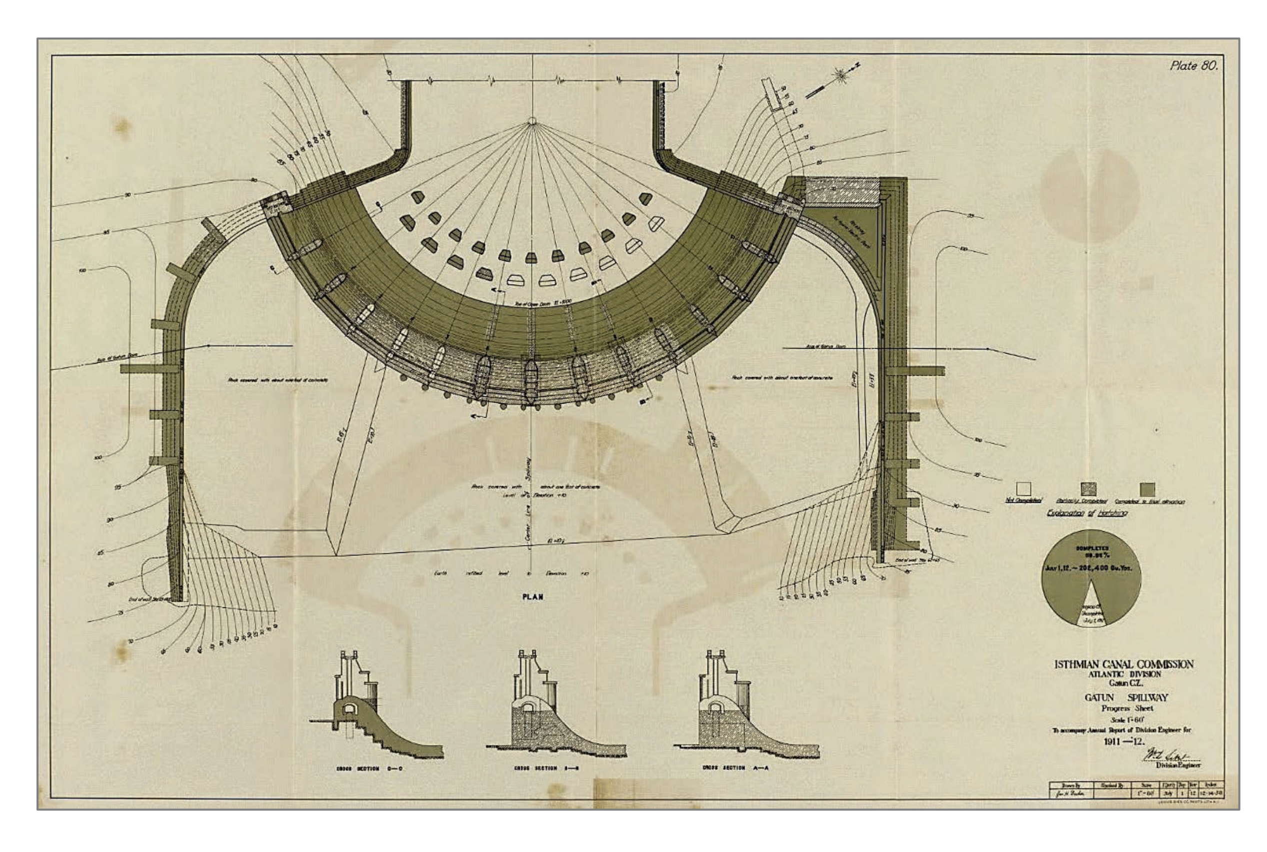
La presa, el vertedero y la hidroeléctrica de Gatún no solo son testimonio de ingeniería del siglo XX, sino que también tienen un profundo valor patrimonial e histórico. Representan la intersección entre el desarrollo tecnológico, la ingeniería ambiental y la visión geopolítica que impulsó la construcción del Canal de Panamá.

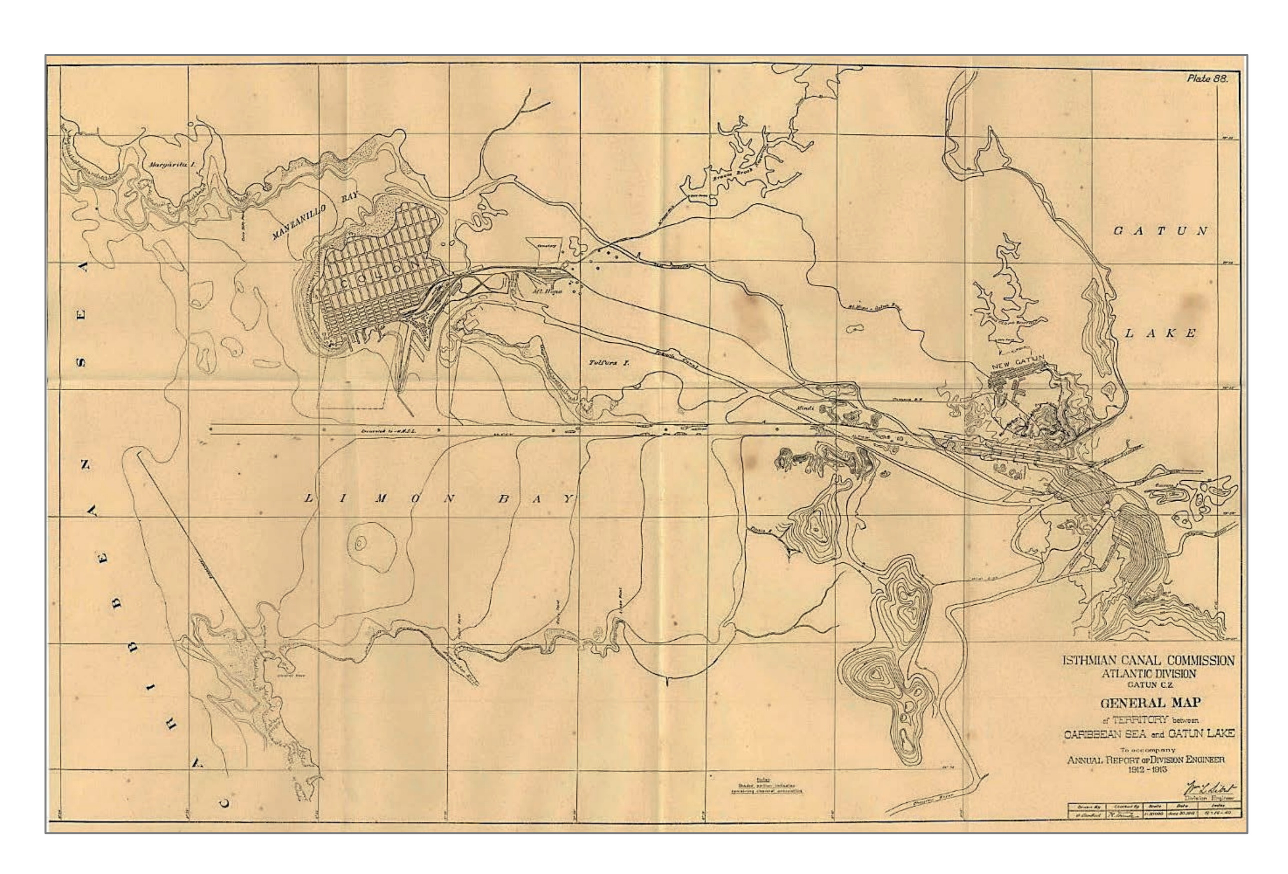

Presa, vertedero e hidroeléctrica de Gatún
Centro de Visitantes de Agua Clara


1910
CHAGRES R.
WEST DIVERSION
SPILLWAY
FRENCH
EAST DIVERSION
Panama R. R. Old Line
CHAGRES R.
CANAL
Panama R. R.
GATUN STA.
LOCKS
Scale
0
500'
1000'
1500'
2000'
2500'
3000 Feet
GATUN DAM

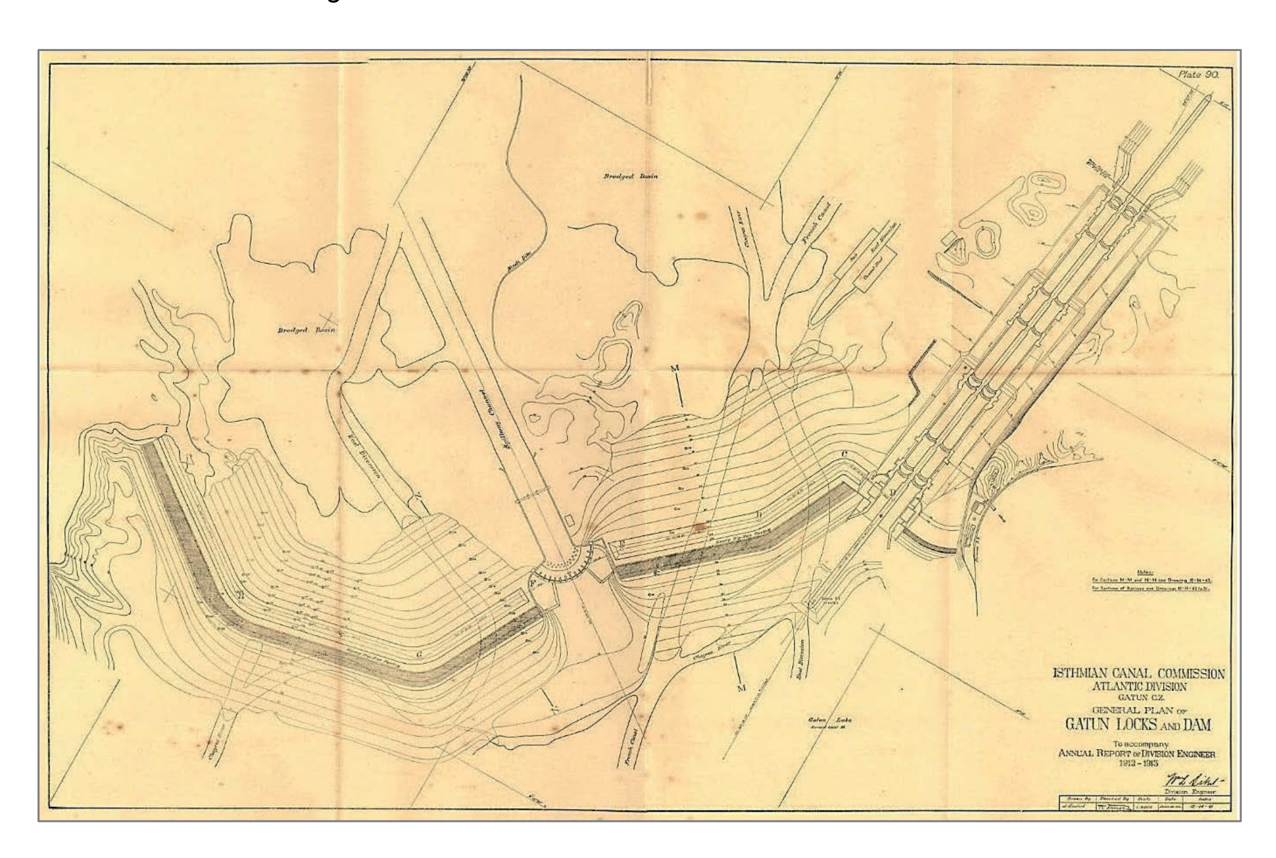


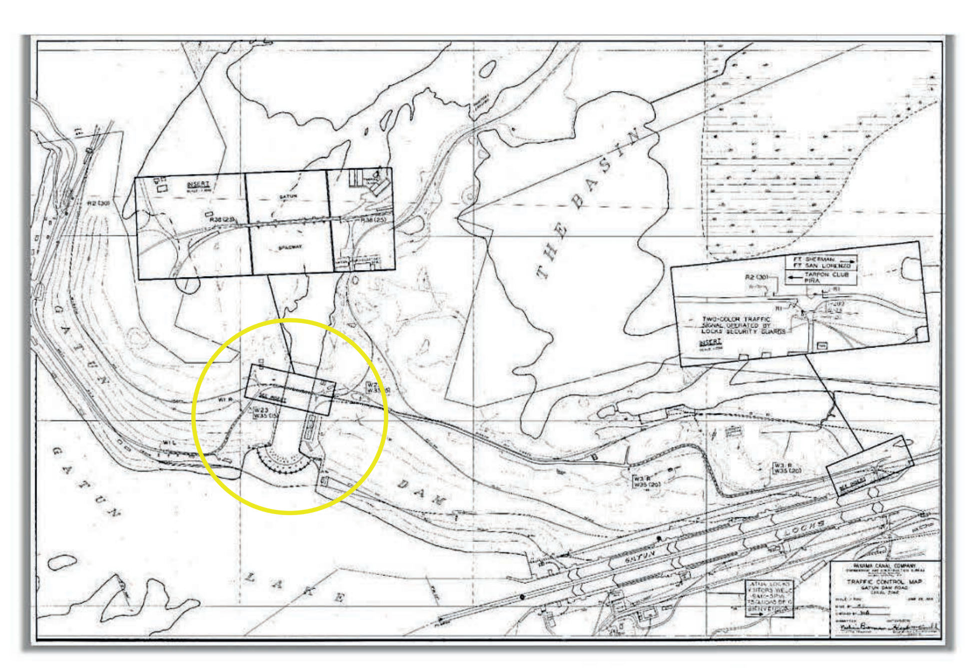
1912 ANNUAL REPORT OF THE ISTHMIAN CANAL COMMISSION, Washington, Government Printing Office.





1913 ANNUAL REPORT OF THE ISTHMIAN CANAL COMMISSION, Washington, Government Printing Office.





Gatun Dam Road (1955)



Represa de Gatún (imagen satelital)

- 163 -

https://www.amazon.com/dp/1541236297

1a) Diciembre de 1913. Vista general, mirando al este, del vertedero de Gatún (elevación del lago subió hasta 17.2 metros a mediados de ese mes).



1b) Prueba de las compuertas 12 y 9 del vertedero de Gatún. Al fondo, buque saliendo de las esclusas en dirección sur.



https://www.amazon.com/dp/1541236297

3a) Agosto de 1917. Vista general de las tres nuevas tuberías de presión que van desde el lago a la planta generadora.



3b) Vertedero de Gatún con una capacidad de descarga de 5,165 metros cúbicos por segundo a una elevación del lago de 26.7 metros.



https://www.amazon.com/dp/1541236297

2a) Agosto de 1917. Estación hidroeléctrica de Gatún. Construcción para instalar tres nuevas unidades (de 5 MW cada una).



2b) Central hidroeléctrica de Gatún con una capacidad de generación de 24 MW (tres generadores de 3 MW y tres de 5 MW).



https://www.amazon.com/dp/1541236297



Fotos aéreas (helicóptero) por Wellington Luck; 2018 (arriba) y 2019 (abajo).





Grúa Hércules

Canal de Panamá (1914-2022)

Deshacerse de ésta grúa representa no solo la pérdida de un objeto físico, sino también la erosión de un valioso vínculo con el pasado que tiene efectos en la preservación del patrimonio histórico cultural nacional.

Desguazar una grúa se refiere al proceso de desmontarla y desmantelarla por completo para recuperar, reciclar o deshacerse de sus componentes y materiales. Esto incluye retirar partes mecánicas, eléctricas y estructurales con el fin de vender a precios irrisorios los materiales como chatarra para fines comerciales e industriales.

Patrimonio histórico del Canal de Panamá

GRÚA HÉRCULES



1914 NACIMIENTO

La historia de la grúa flotante Hércules corre paralela al Canal de Panamá, pero este patrimonio histórico de la nación, a la espera de ser desguazado ya que su valor como material en desuso obtuvo mayor precio como chatarra que histórico, cumple 108 años.

HÉRCULES X TITÁN

Aceptada oficialmente por la agencia del Canal en marzo de 1915, la Hércules brindó un servicio confiable y eficiente por más de 84 años. Fue reemplazada por la Titán cuya suerte y destino corre igual suerte (2022), es decir, venta como chatarra.



1915 VIENDO SUR

Las imágenes captadas por Ernest "RED" Hallen desde lo más alto de la grúa son inigualables. Esta fue viendo al sur desde las esclusas de Miraflores. Captada el 28 de agosto de 1915; un año y dos semanas luego de la inauguración del Canal.

1915 VISTA NORTE

Otra vista, hacia el Corte Culebra (Gaillard) desde la parte superior de la grúa flotante Hércules. Las esclusas de Miraflores en primer plano y las de Pedro Miguel al fondo. Imagen captada en agosto de 1915. El vertedero de Miraflores a la derecha.



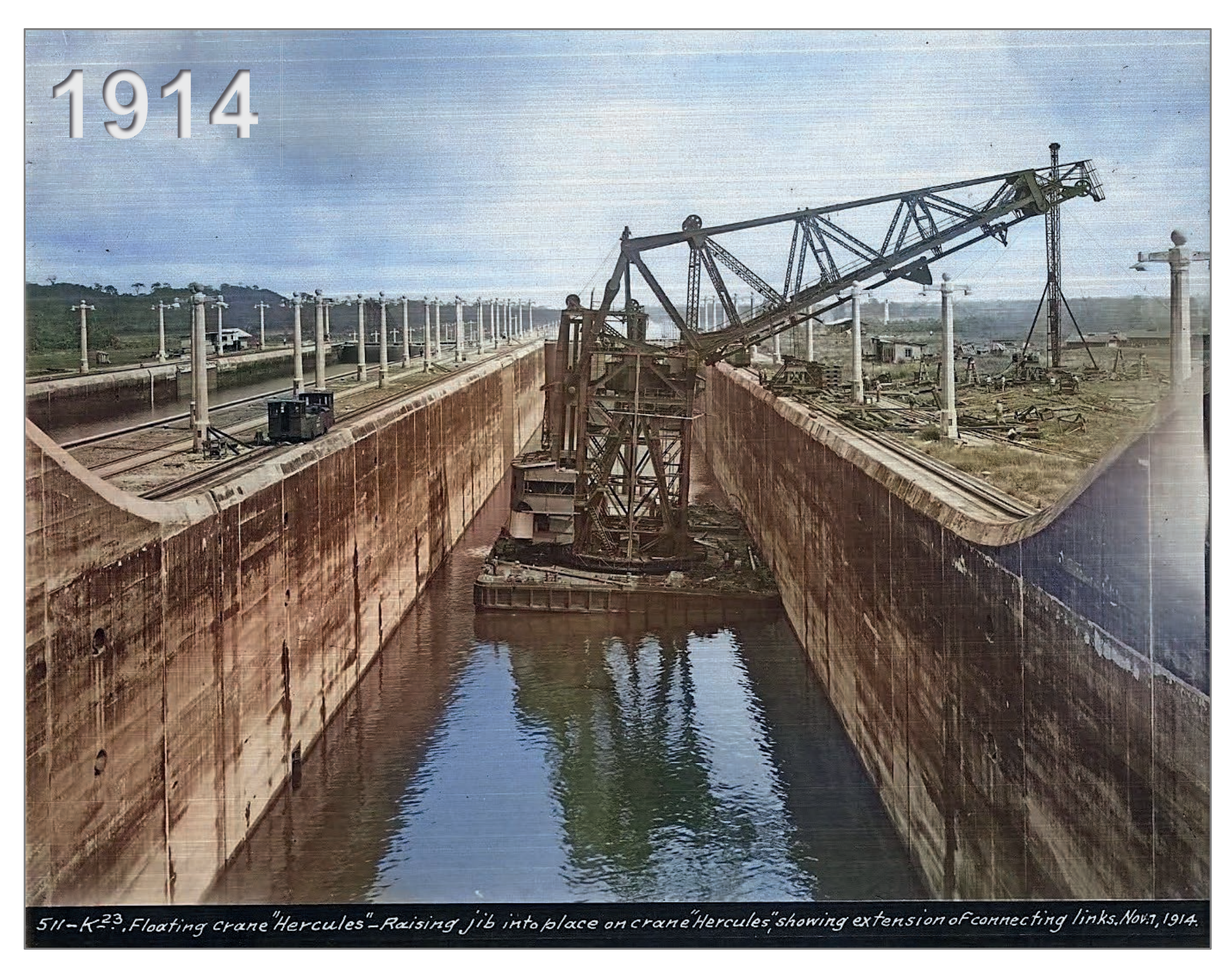


2022 MUELLE 45

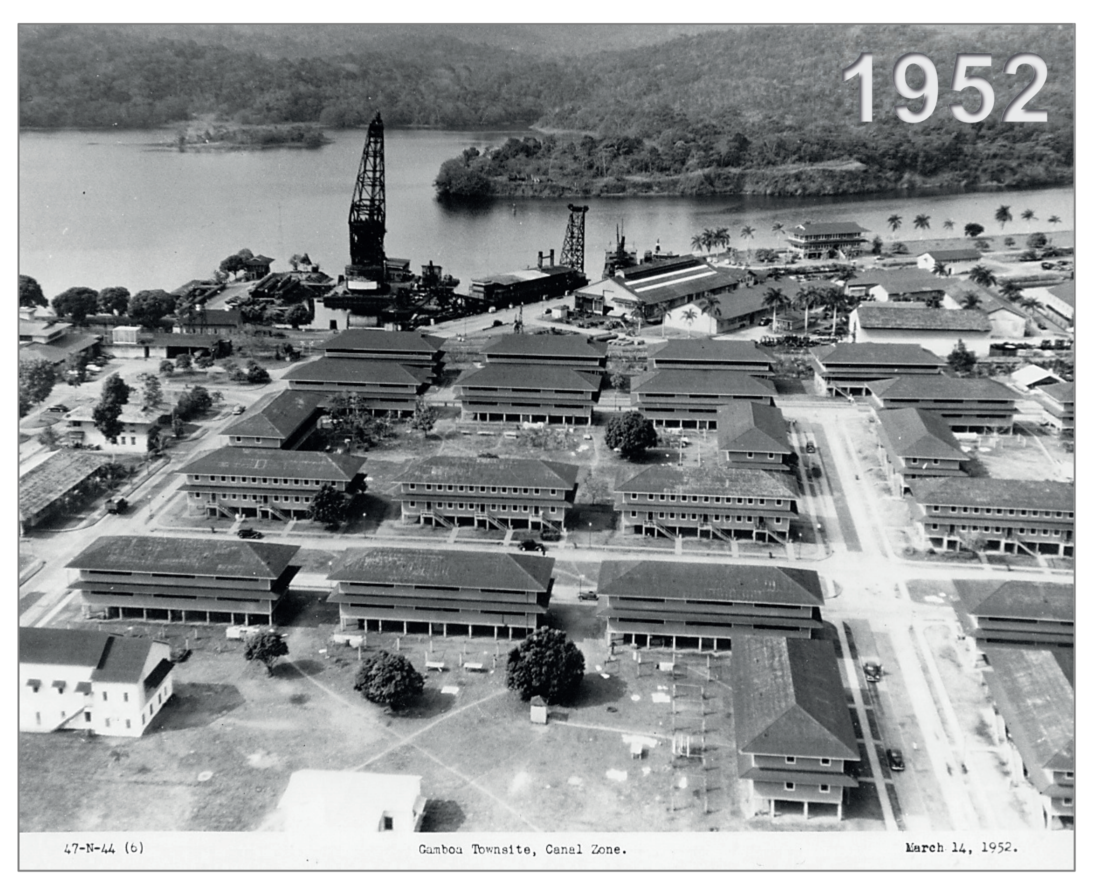
La Unidad de Memoria Histórica del Canal, hizo lo posible para actualizar las actividades de desmantelamiento de la grúa Hércules que tendrían lugar en el muelle 45 a partir del acondicionamiento del área en el mes de junio 2022. Desde mi jubilación (30 de junio) desconozco el estatus o futuro del tema.

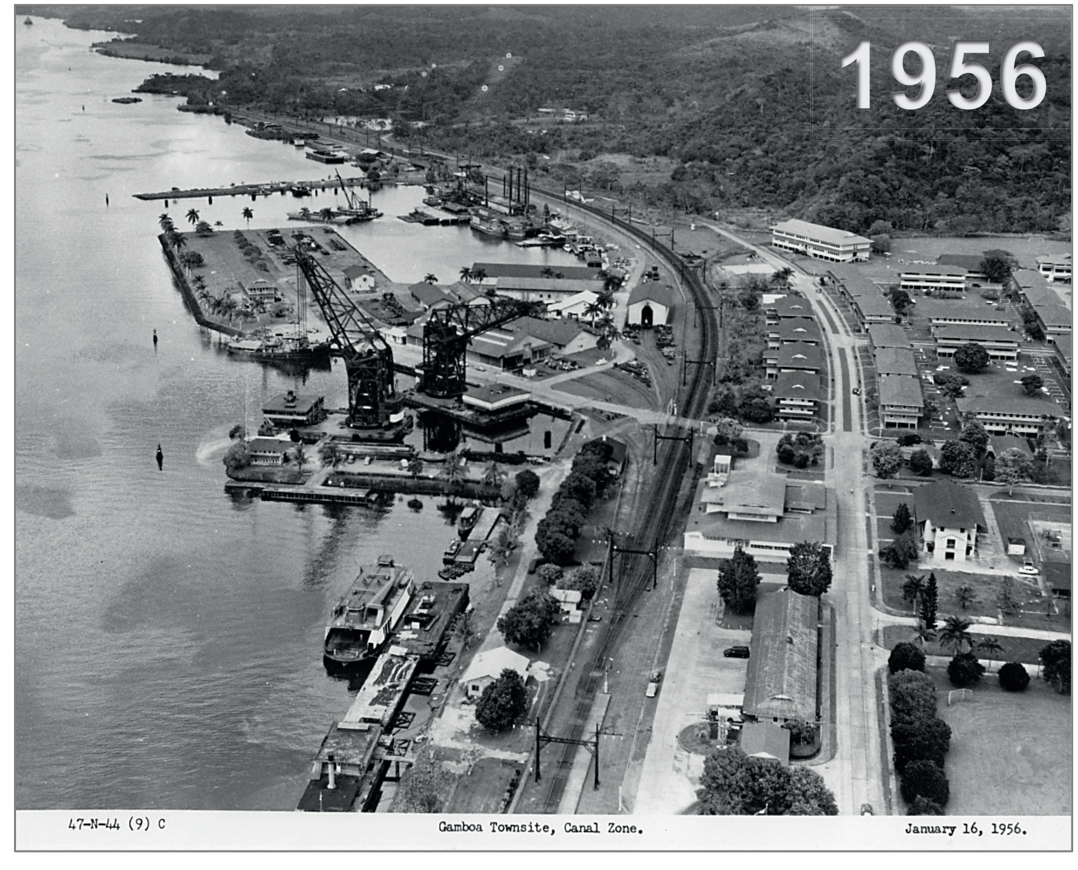
Una de las piezas más emblemáticas del Canal de Panamá. Construida en 1913 por la empresa alemana *Demag*, representó un hito en la ingeniería naval de su época, siendo una de las grúas flotantes más grandes y poderosas del mundo. Diseñada para levantar compuertas, válvulas y maquinaria pesada durante la construcción del canal, su capacidad de carga y su robustez estructural desafiaban los límites técnicos de aquellos años. Desde su llegada, se convirtió en una herramienta indispensable para el desarrollo y funcionamiento de una de las obras de infraestructura más ambiciosas de la humanidad.

A lo largo de más de un siglo, cumplió un papel clave no solo durante la construcción original del canal, sino también en su mantenimiento continuo y en las posteriores fases de modernización. Participó activamente en operaciones complejas, como el reemplazo de compuertas y maniobras de rescate de embarcaciones averiadas, consolidándose como un símbolo de eficiencia y fuerza. Su imponente silueta era una presencia familiar en las aguas del canal, y su historia estuvo estrechamente ligada a momentos trascendentales como la reversión a Panamá en 1999 y la inauguración del Canal Ampliado en 2016. En el año 2022, y 108 años de servicio, fue finalmente desguazada, marcando un triste fin de una era.



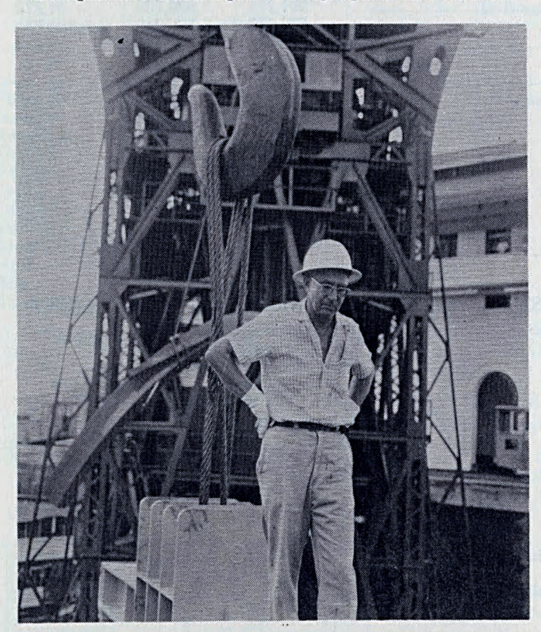
511-K-23. Floating crane "Hercules" – Raising jib into place on crane "Hercules", showing extension of connecting links. Nov. 1, 1914.


1952
47-N-44 (6)
Gamboa Townsite, Canal Zone.
March 14, 1952.


1956
47-N-44 (9) C
Gamboa Townsite, Canal Zone.
January 16, 1956.



Working at night during the locks overhaul project, men and equipment present a dramatic picture as light pierces the darkness.



Bert Tabor, one of the most skilled riggers in the Dredging Division, looks over the situation before giving hand signals to the floating crane Hercules to lift the miter gates at Miraflores locks. Tabor, skipper of the Hercules, has been with the Dredging Division since 1935. To those in heavy equipment work, his hand signals are an easy, quick language, but to the layman, it looks like magic.

A New Key to Locks Overhaul?

THE SKILL AND know-how of the employees of four Panama Canal divisions were combined last month to carry out a series of revolutionary tests designed to reduce the locks overhaul time to the minimum.

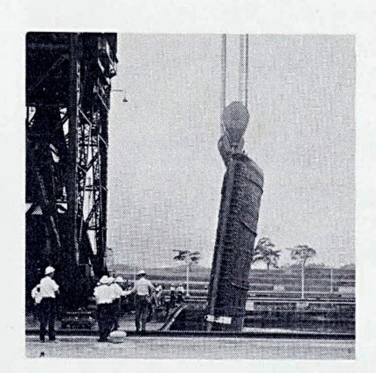
Craftsmen and engineers from the Locks, Industrial, Dredging and Engineering Divisions worked overtime at Miraflores locks in order to complete one of the projects—the removal of the two miter gate leaves from the control house gates in the east lane.

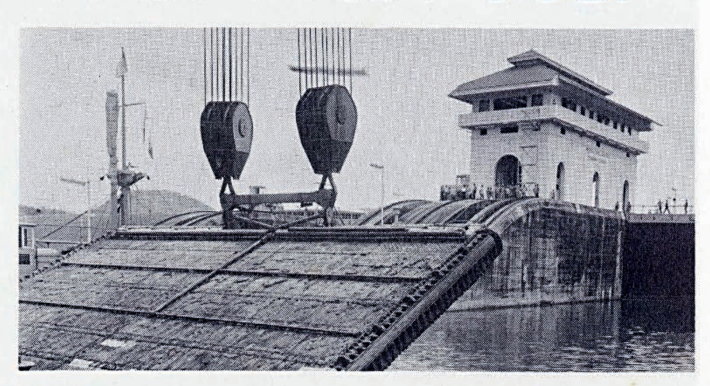
It was the first time that these particular gates have been lifted off their hinges or pintles by the floating crane *Hercules* and the first time any lock gate had been floated to drydock for overhaul.

The pintles, by the way, are hinges on which the lock gates rotate. They are located at the base of the lock gate. Before the gate can be lifted, the 2-foot yoke pin located at the top of the gate must be pulled by a lock locomotive crane.

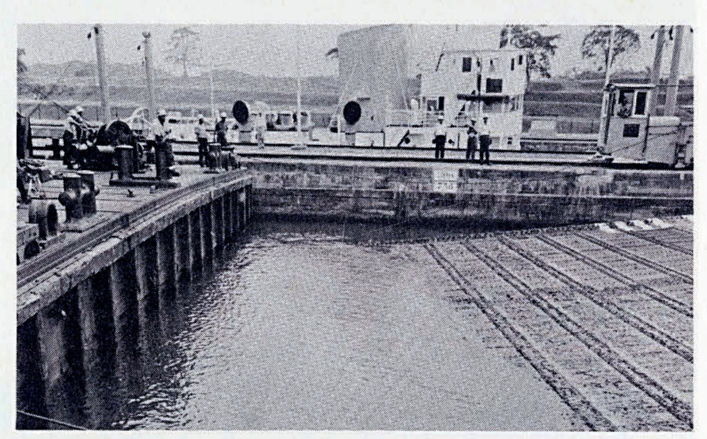
In order to keep the gate leaves from sinking when they were lowered into the water, the port holes cut for ventilation in all lock gates were sealed.

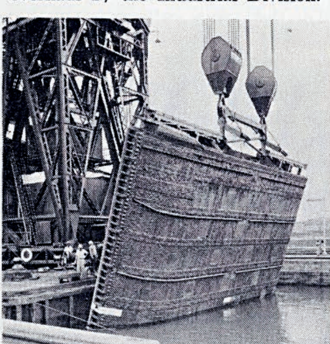
. . . REALLY A SWINGIN' JOB!





UP, OVER AND OUT. In these five pictures, a miter gate leaf at Miraflores locks is lifted off its hinges for the first time by the floating crane Hercules. Since the crane has a maximum lifting capacity of 250 tons, skill was needed to keep the 750-ton gate on an even keel while it slides gently on its face into the locks chamber. The last picture shows the gate in position for towing to Balboa drydock, where it is undergoing overhaul by the Industrial Division.









This may be the last lock overhaul for Russel H. Jones, center, Mechanical Supervisor at Miraflores locks, who as chief as the craftsmen, keeps an eagle eye on the experimental overhaul tests being conducted at Miraflores. A veteran mechanic, Jones has been with the Locks Division since 1936 and may retire sometime later this year.



Los trabajadores lucen pequeños al lado del enorme garfio del "Hércules" mientras afianzan uno de los cuatro cables que permitirán que la grúa levante la escalera de acero estructural de 160 toneladas de la draga "Mindí" en la División Industrial de Mount Hope. El "Hércules" y su gemelo, el "Ajax" fueron construídos en Duisburg, Alemania a comienzos de la Primera Guerra Mundial. Dice la leyenda que, a petición del Departamento de Guerra de los Estados Unidos, se suspendieron las hostilidades durante 3 días para permitir que las grúas flotantes pasaran el bloqueo británico y llegaran al Canal de Panamá.



La grúa de 250 toneladas de capacidad "Hércules" es la única pieza flotante del equipo del Canal capaz de levantar y sacar las compuertas de 700 toneladas de las esclusas para repararlas. Se alzan las compuertas, se ponen en posición horizontal, y dada su flotabilidad, se colocan en la cámara llena de agua y se llevan flotando a un dique seco.



Dos gigantescas unidades, las grúas flotantes "Hércules," a la izquierda, y la "Goliath," son llevadas a su sitio de trabajo en el Corte Gaillard por el remolcador "San Pablo."

FEBRERO 15, 1991



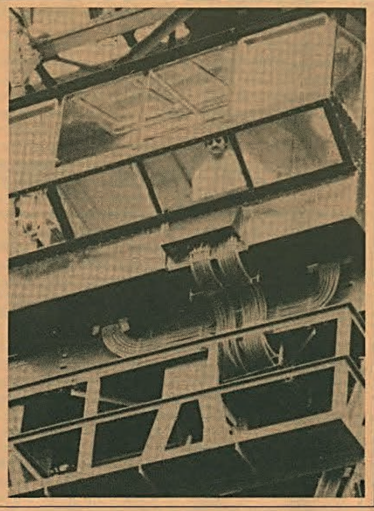




Artículo y fotos por Susan K. Stabler

...floating crane "Hercules" edges the 243-ton ladder toward the blocks on Dock 14, where it

...al, la grúa flotante "Hércules" acerca la escala de 243 toneladas hacia el área del Muelle 14 ... trabajos de reacondicionamiento.



In control

Dredge mate Braulio Giron handles the "Hercules" controls for the near-capacity lift.

Bajo control

El oficial de draga Braulio Girón, en los controles, logra que la grúa "Hércules" trabaje cerca de su capacidad máxima.

Grúa flotante "Hércules" hace honor a su nombre

Hace dos semanas, en lo que sólo puede ser descrito como un trabajo fuera de serie y alejado de toda rutina, la escalera de la draga de succión *Mindi* fue removida por la grúa flotante *Hércules*. Este trabajo fue realizado por última vez en 1978.

La *Mindi* actualmente es objeto de un detallado trabajo de reacondicionamiento en la División Industrial. La escalera, una imponente estructura que parece un intrigante submarino, es el mecanismo principal de dragado y excavación de la *Mindi*. La misma fue removida de la *Mindi*, colocada provisionalmente sobre el fondo marino mientras la *Mindi* se movía del sitio, y entonces levantada nuevamente y puesta sobre bloques en el Muelle 14.

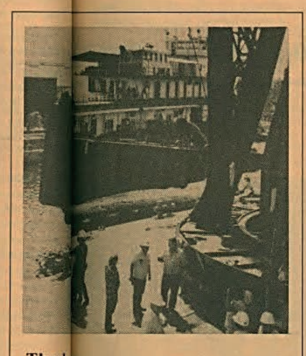
Cuando fue removida por última vez en 1978, la escalera pesaba un poco más de 200 toneladas. Desde entonces, diversas modificaciones, incluyendo la adición de una bomba que permite a la draga operar a mayores profundidades, la han hecho más pesada. El capitán de la *Mindi*, Jay Gibson, calcula que el peso de la escalera de 108 pies, con todas sus piezas instaladas, es de aproximadamente 350 toneladas.

Para que la *Hércules*, capaz de levantar cargas de hasta 280 toneladas, pudiera realizar el trabajo, debieron desmontarse de la escalera sus piezas removibles para hacerla más liviana.

"Se descifra qué hay que hacer . . . y entonces se hace".

Esto redujo su peso a unas 243 toneladas.

"Primero se descifra qué hay que hacer y con qué se cuenta para hacerlo—y entonces se hace", es el enfoque dado por el Jefe de las Operaciones de Grúa de la División de Dragado, Karl Marohl, a la operación. Las fotos en esta página ilustran la compleja actividad.



The h...

The lad... bottom after the "Mindi", seen in the backgr... eadied by the "Hercules" with a little extra pull by ...

En ac...

La escale... que la "Mindi", vista al fondo, desalojara el área, es ... la ayuda del personal de grúas.



Making calculations

Industrial Division shipwrights study a print to verify the location of the blocks for positioning the ladder on Dock 14.

Haciendo cálculos

Los armadores de la División Industrial estudian el plano para verificar la posición de la base donde se colocará la escalera en el Muelle 14.



Interested spectators

Administrator Gilberto Guardia F., Industrial Division Chief C.P. Corrigan and Engineering and Construction Director Col. John J. Plunkett observe as preparations are made for the lift.

Espectadores interesados

El Administrador de la Comisión del Canal, Ing. Gilberto Guardia F., el Jefe de la División Industrial C. P. Corrigan y el Director de Ingeniería y Construcción Col. John J. Plunkett, observan los preparativos para el levantamiento de la escala.

...rom the ...redging ...ivision's

...ula "La ...aciones ...División

Titán inicia oficialmente su carrera en el Canal

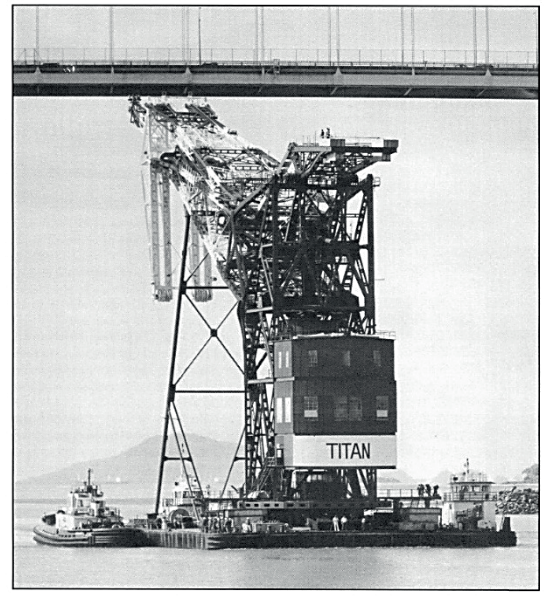
La carrera de la *Titán*, como grúa flotante encargada de los levantamientos pesados en el Canal de Panamá, se inició oficialmente el pasado domingo 19 de septiembre cuando removió y reinstaló las compuertas 118 y 119 en la cámara oeste de las Esclusas de Miraflores. El tan esperado momento fue precedido por un tránsito de prueba el 14 de septiembre durante el cual se verificaron las medidas y la maniobrabilidad de la *Titán* en el Corte Gaillard y las cámaras de las esclusas.

Con una capacidad de levantamiento de 350 toneladas métricas y 112 metros de alto, la *Titán* supera en levantamiento y alcance a la *Hércules*, recientemente retirada a la flota de reserva de la División de Dragado.

Construida en 1941, la *Titán* trabajó en el Astillero Naval de Long Beach, California, desde 1946. La agencia canalera la adquirió por medio de una transferencia cuando fue sacada de servicio por la Armada de los Estados Unidos. La *Titán* es una de cuatro grúas construidas por los alemanes durante la Segunda Guerra Mundial a un costo de $3.5 millones cada una. Una de las grúas se hundió durante el bombardeo de los países aliados a Hamburgo, mientras que las otras tres fueron asignadas a los tres grandes aliados: Gran Bretaña, la antigua Unión de Repúblicas Socialistas Soviéticas y Estados Unidos.

Luego de su reconstrucción, la *Titán* fue puesta en operación a finales de 1948 y sirvió como distintivo de Long Beach por casi 50 años hasta su traslado a Panamá.

Después de una serie de trabajos de reacondicionamiento, la *Titán* llegó a Panamá el 31 de mayo de 1996, a bordo de un buque carguero semisumergible que la puso a flote en las inmediaciones de la isla Taboga. Al día siguiente, la grúa, con la ayuda de remolcadores de la agencia, inició su recorrido hacia su nuevo hogar en la División de Dragado, en Gamboa.



Llegada al Canal Foto por Don Goode

La "Titán" pasa bajo el Puente de las Américas con sólo unos cuantos pies de separación entre el punto más alto de la grúa y la estructura del puente.

Para realizar su travesía por mar y permitir su paso bajo el Puente de las Américas, el brazo o aguilón de la *Titán*, de 287 toneladas métricas, fue bajado de su altura mínima de 85 metros. La grúa pasó bajo el puente en el punto más bajo de la marea y, aún con el brazo reducido y la marea baja, sólo quedaban unos ocho pies de separación entre el punto más alto de la grúa y la estructura del puente.

Desde su llegada al Canal, la grúa ha sido sometida a una serie de trabajos de reacondicionamiento en sus sistemas para permitir su operación segura en la vía acuática. Estos trabajos incluyeron, entre muchos otros, el reemplazo de su cable y cuerda principal y la remodelación de las instalaciones a bordo para cumplir con las normas de seguridad marítima y salud ocupacional de la agencia canalera, requisitos para obtener su certificado de operación.

Uno de los trabajos más difíciles realizados en la *Titán* fue la izada de su brazo, el cual tuvo que ser bajado para su viaje a Panamá. Este singular trabajo lo realizaron cuadrillas de la División de Dragado y prácticamente usaron la propia *Titán* para elevar su brazo horizontal a un ángulo más alto. Después de varios meses de preparativos y estudio de varias propuestas, se ideó un método para usar la propia *Titán*, sostenida por una grúa terrestre, y dos grúas flotantes del Canal, la *Goliath* y la *Hércules*, para hacer el trabajo.

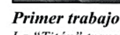
"La *Titán* continuará siendo una nave única y muy especial por su naturaleza. Sin embargo, ésta no requerirá de arreglos especiales para transitar o trabajar en las cámaras de las esclusas", comentó orgulloso el gerente de la División de Dragado, Adriano E. Díaz. Agregó: "Su acomodo dentro de las cámaras de las esclusas en realidad nos dice que la *Titán* fue construida para encajar y trabajar en las cámaras de las esclusas del Canal de Panamá. Además, tiene casi el doble de capacidad que la *Hércules* para levantar naves hundidas en el Canal".

La puesta en operación de esta gigantesca grúa se debe al arduo trabajo y profesionalismo del personal de la División de Dragado del Canal. ¡Bienvenida *Titán*!

Grúa *Hércules* pasa a flota de reserva

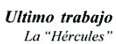
Tan antigua como el propio Canal de Panamá, la grúa flotante *Hércules* es parte importante del equipo con que cuenta la agencia para realizar las tareas de carga más pesada en la vía. Aceptada oficialmente por la agencia del Canal en marzo de 1915, la *Hércules* ha brindado un servicio confiable y eficiente por más de 84 años.

Fabricada especialmente para el Canal por la empresa Deutsche Maschinenfabrik A.G., de Duisberg, Alemania, la *Hércules*, una grúa flotante a vapor, llegó a la vía acuática unos meses antes de la apertura del Canal junto a su hermana, la *Ajax*, para encargarse de levantar piezas y equipo pesado, ayudar en la reparación de buques mercantes, operaciones de salvamento y, lo más importante, para remover o reinstalar las compuertas de las esclusas. En la década de 1950, después de sufrir una falla en su brazo, la *Ajax* fue vendida a una firma venezolana, pero la *Hércules* continúo sirviendo a la agencia canalera.



Primer trabajo Foto por Jaime Yau

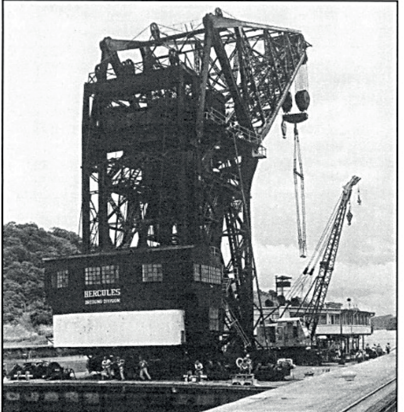
La "Titán" transporta una de las compuertas de las Esclusas de Miraflores en lo que constituyó su primer trabajo oficial en el Canal. El procedimiento de remoción y reinstalación de compuertas se realizó el pasado domingo en la cámara oeste de las esclusas.



Ultimo trabajo

La "Hércules" transita las Esclusas de Pedro Miguel transportando una grúa eléctrica que recogió en las Esclusas de Gatún. En Pedro Miguel, la "Hércules" recogió una grúa adicional y luego las transportó hasta las Esclusas de Miraflores en donde se usarán durante el reacondicionamiento de cámara seca.

Foto por: Ariyuri H. de Mantovani



En la actualidad, la *Hércules* aún funciona a vapor, aunque se le instaló una nueva caldera en 1966 que usa combustible diesel en vez de carbón. Quienes visitan el cuarto de la caldera de la grúa entran a un mundo de tuberías de cobre, conexiones de bronce e indicadores de presión del pasado. En la cubierta, la estructura de la grúa de 206 pies de alto, se erige sobre un pontón flotante de 90 pies de ancho por 105 pies de largo.

A pesar del paso de los años, la grúa no ha perdido nada de su capacidad de levantamiento de 250 toneladas largas, precisamente por su excelente construcción y el mantenimiento dedicado que ha recibido durante todos estos años. La historia de la *Hércules* corre paralela a la del Canal de Panamá y, al igual que la vía acuática, su excelente funcionamiento constituye un tributo a las muchas generaciones de empleados que le han dado un cuidado de primera.

Recientemente, esta grúa realizó una última asignación en relación con el reacondicionamiento en cámara seca que se realiza hasta fines de este mes en las Esclusas de Miraflores. La *Hércules* pasa a la flota de reserva de la División de Dragado, siempre lista para brindar sus servicios cuando sea necesario, tal y como lo ha venido haciendo durante muchas décadas.

Artículos por: Myrna A. Iglesias


2022

ESCUELA PRIMARIA DE GATÚN

EDIFICIO 206

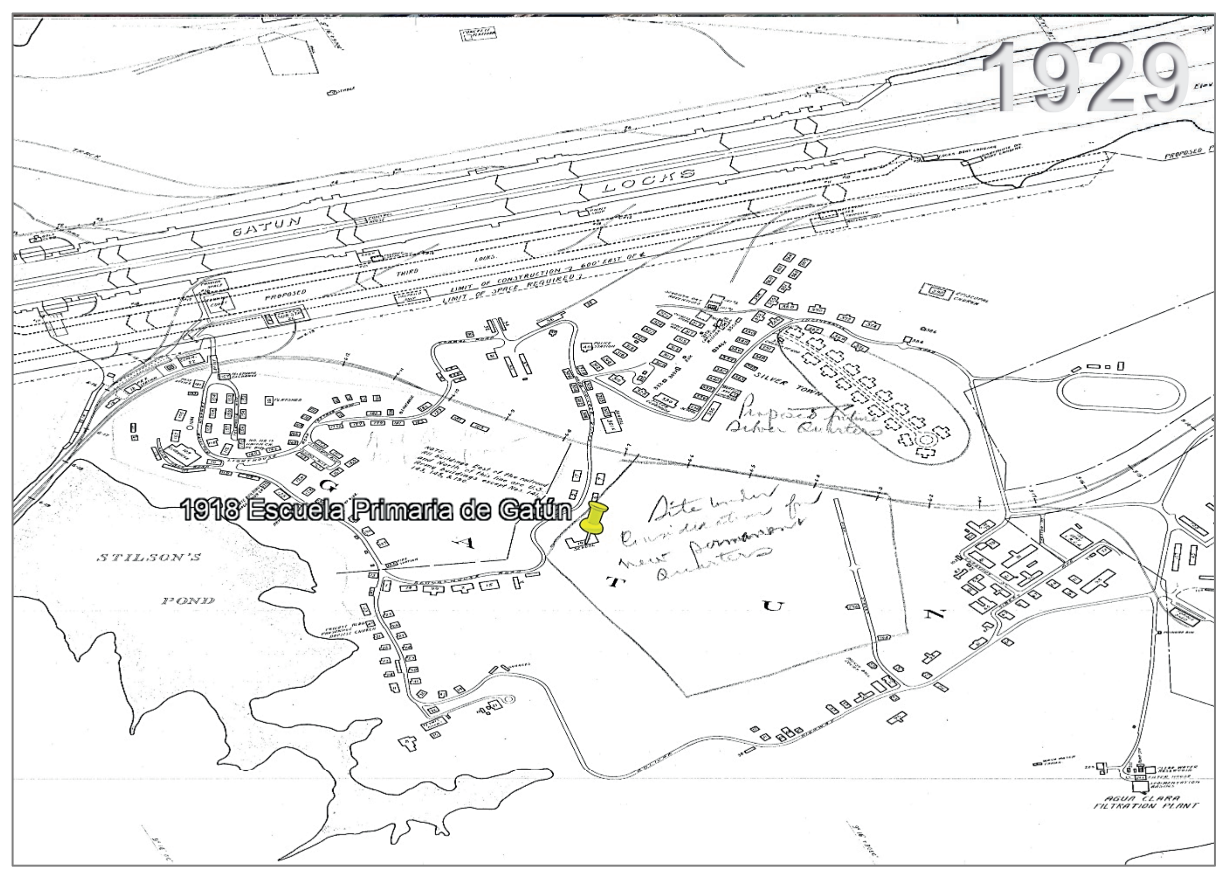
1918

La Escuela Primaria de Gatún (Gatun Elementary School) tiene una historia íntimamente ligada al desarrollo de la Zona del Canal de Panamá y al poblado de Gatún, ubicado junto a las esclusas del mismo nombre. Diseñada y construida entre 1916 y 1918 para atender las necesidades educativas de los hijos de los empleados estadounidenses de la Nómina de Oro (Gold Roll) del lado Atlántico formó parte del sistema escolar que operó en la Zona del Canal hasta su reversión a Panamá.

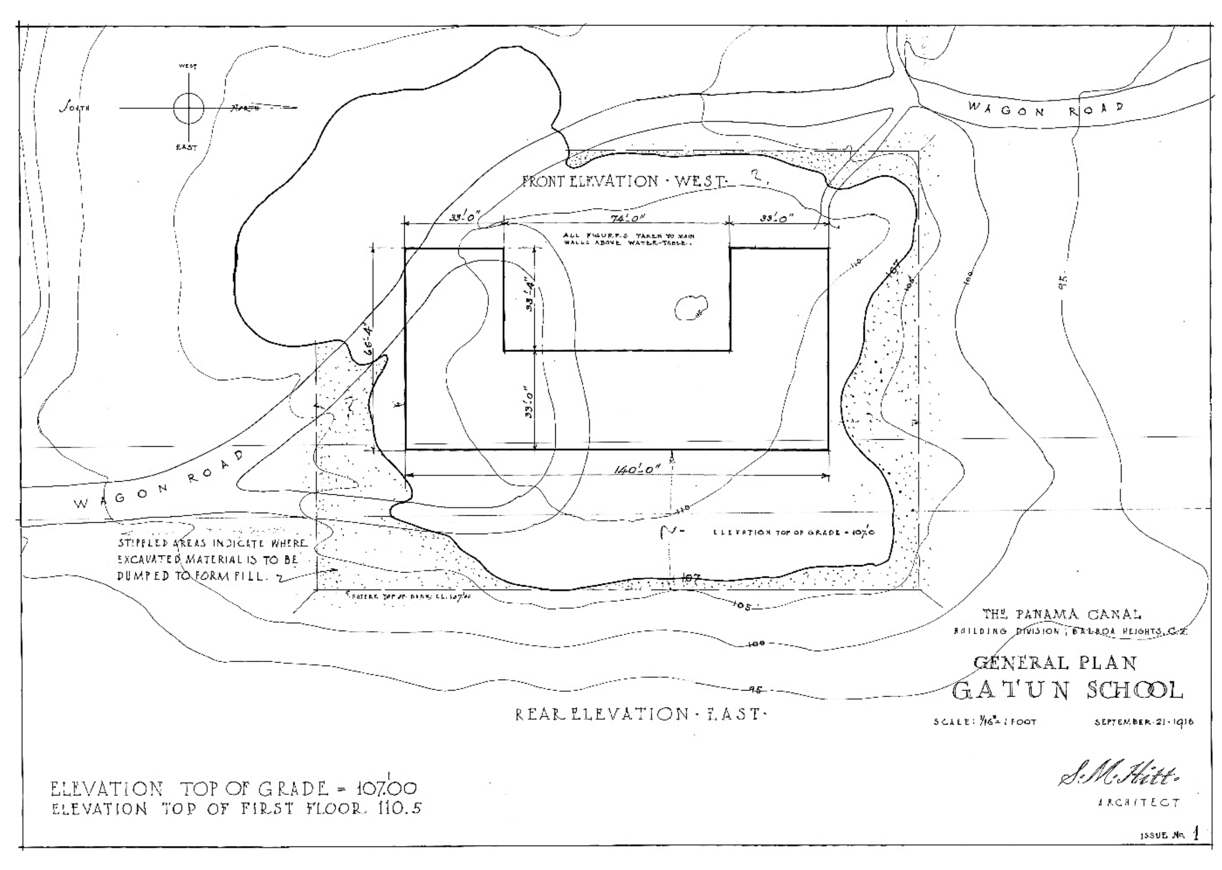
Durante décadas, la escuela fue un pilar de la comunidad de Gatún, no solo como centro educativo, sino también como espacio de convivencia y actividades sociales. Su población estudiantil estuvo compuesta en su mayoría por niños estadounidenses blancos, aunque también se registraron casos de integración posteriormente.

Con la paulatina reducción del personal estadounidense luego de los Tratados Torrijos-Carter en 1977, comenzó una transición que culminó con el traspaso del control del Canal a Panamá en 1999. No obstante, la escuela cesó operaciones como parte del sistema educativo estadounidense mucho antes de esta fecha.

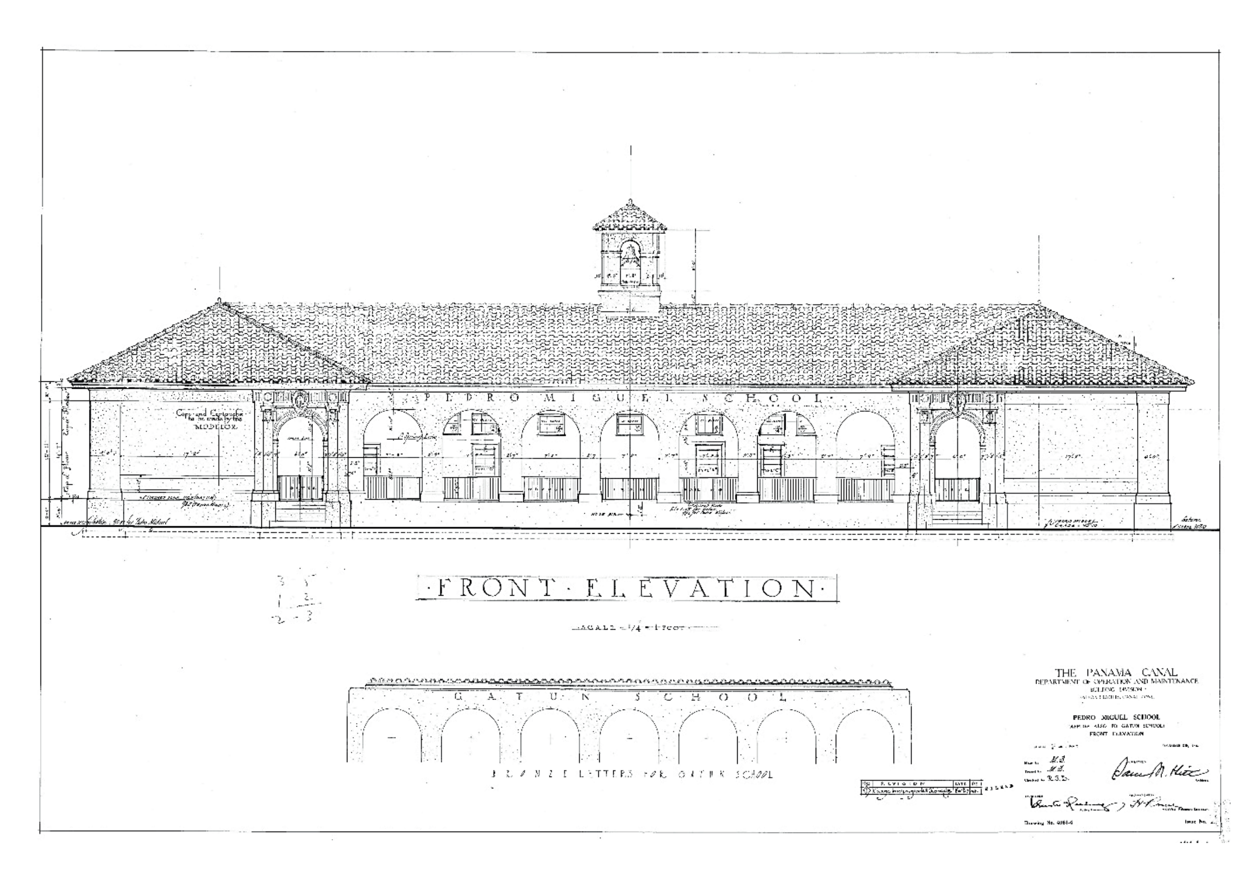
Hoy en día, el edificio 206, con un diseño similar de hace 99 años (1916) a la actual escuela pública de Pedro Miguel, aún se encuentra en pie, aunque en estado de abandono (2022). Diversas iniciativas, como la presente, buscan su restauración, protección legal y promoción turística, con el fin de preservar la memoria de una institución que fue clave en la historia educativa y social del Canal de Panamá.

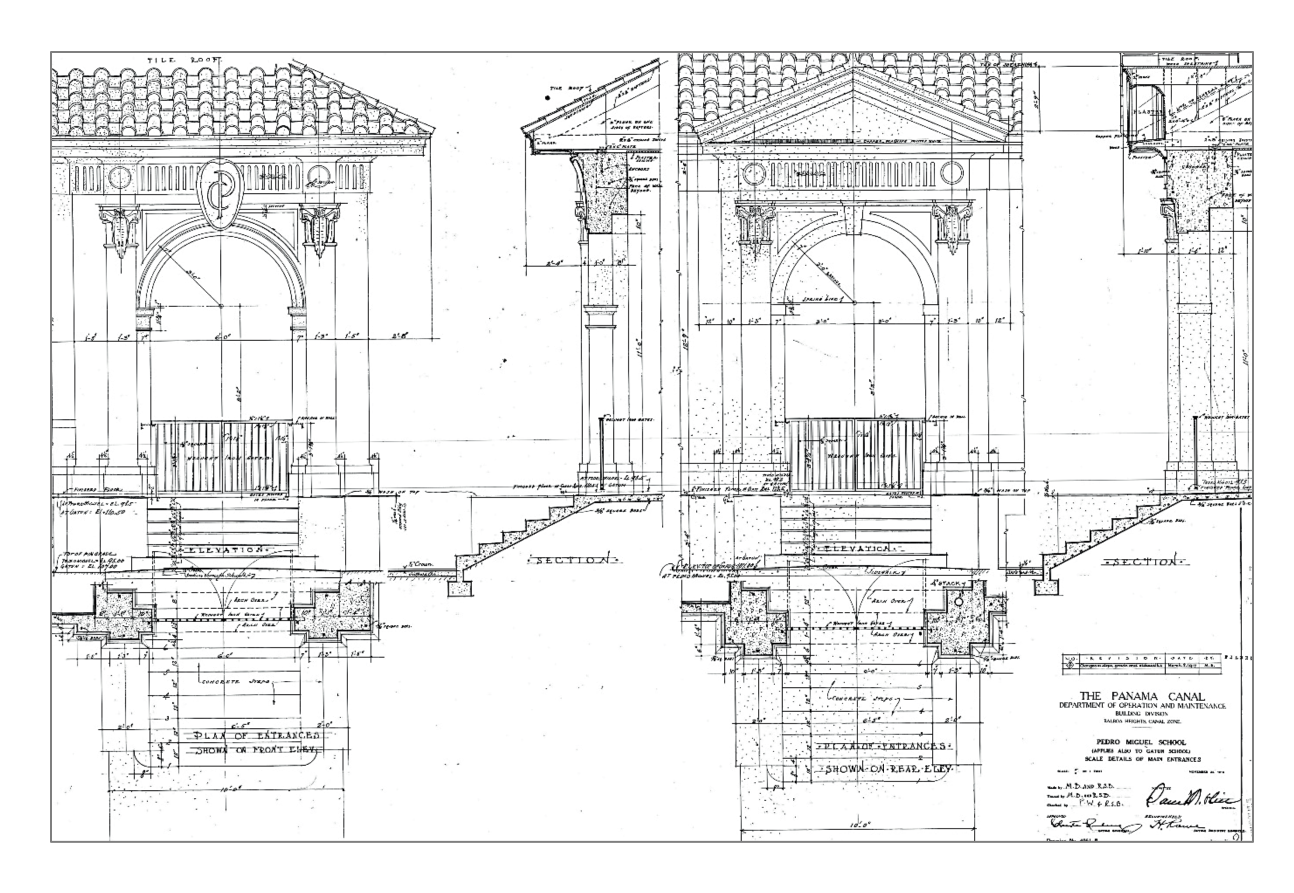

1929
GATUN
LOCKS
1918 Escuela Primaria de Gatún
STILSON'S
POND
SILVER TOWN
AGUA CLARA
FILTRATION PLANT


1918 Escuela Primaria de Gatún



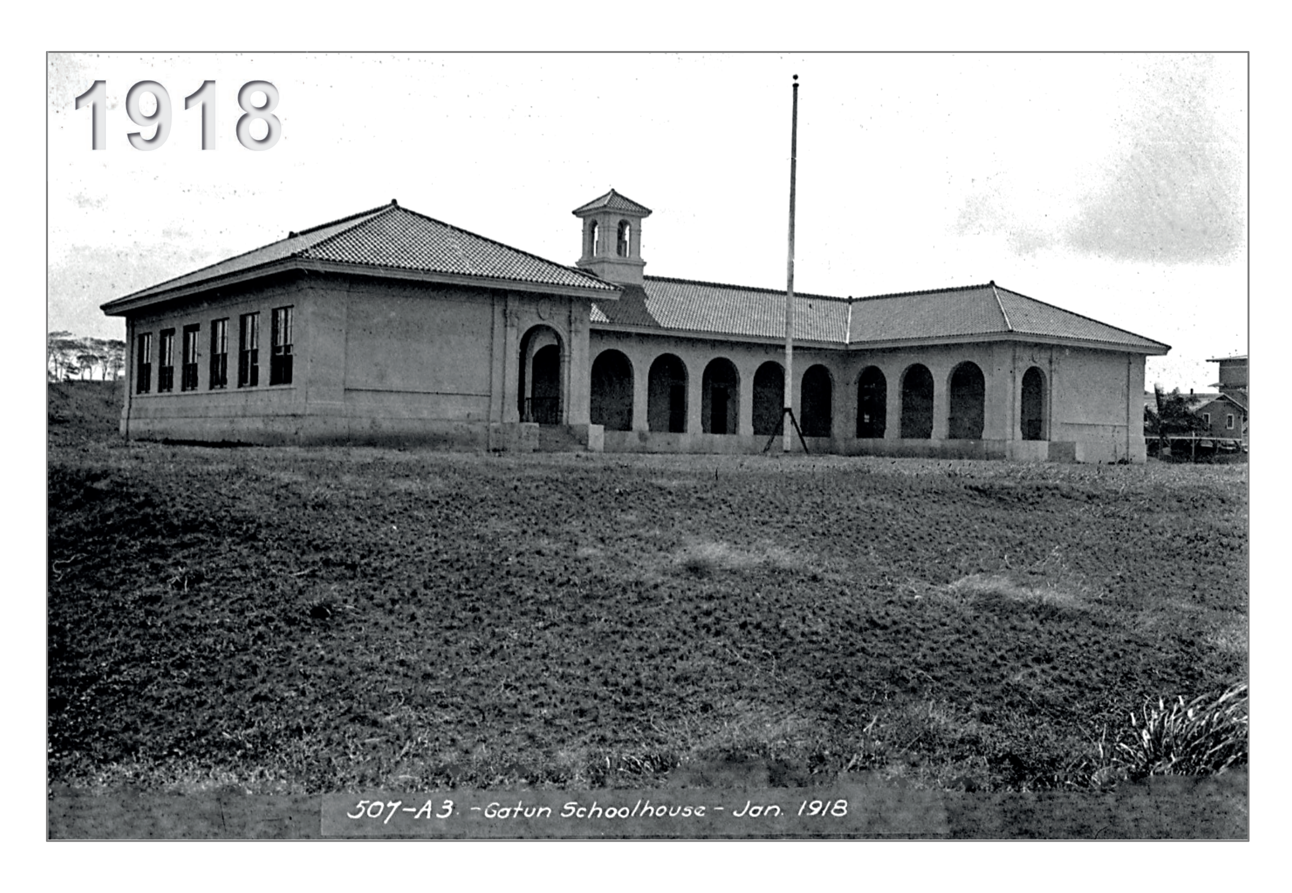
16 de septiembre de 1916 (arriba) y 23 de noviembre de 1916 (abajo).





25 de noviembre de 1916 (arriba) y 30 de marzo de 2022 (abajo).





Enero 1918 (arriba) y 30 de marzo de 2022 (abajo).



Orig nitrate neg destroyed print copied 11 Sept 64.

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UNCLASSIFIED

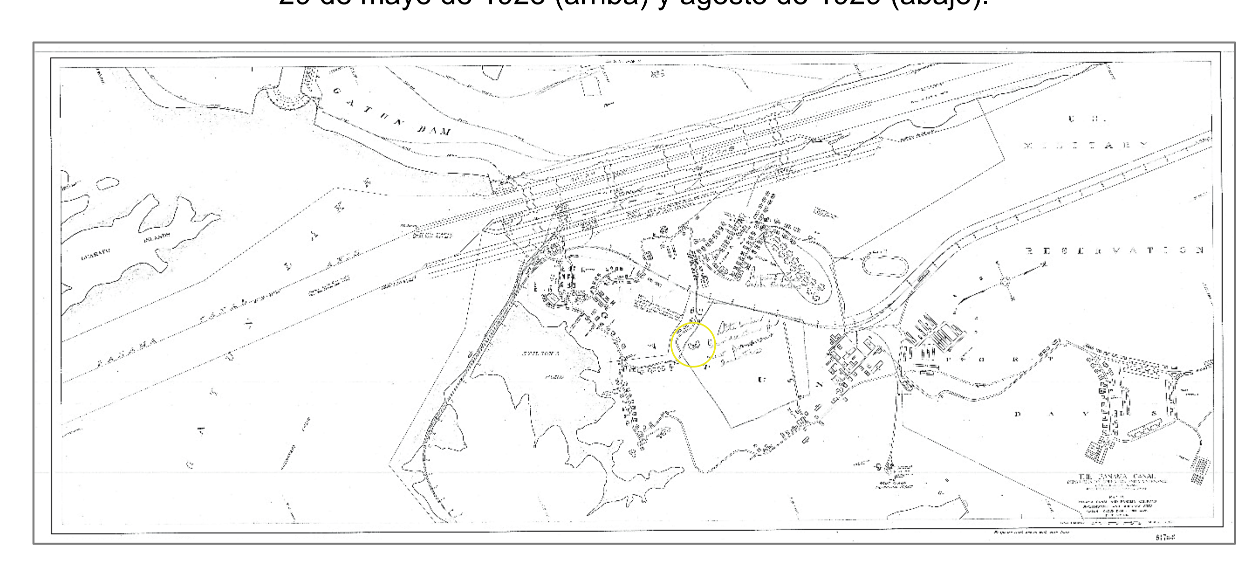
Gatun Locks and Spillway and Camp at Gatun, Canal Zone

(UNCLASSIFIED - per CAM-58-P-82 - 21 Dec. 1956 and 11 Feb. 1957 from AFOIN-1A2.)

12th Photo Sec., France Field, 5/29/23

Neg. No.1177

29 de mayo de 1923 (arriba) y agosto de 1929 (abajo).



WAGON ROAD

EXISTING SIDEWALK

COVERED PASSAGE WAY

FRONT ELEVATION - WEST

ALL FIGURES TAKEN TO MAIN WALLS ABOVE WATER-TABLE.

SECTION (A)

10"x10" CONCRETE COLUMNS
6"x8" PLATE
2"x6" RAFTERS
3/4" SHEATHING
STANDING SEAM COPPER ROOF

STIPPLED AREAS INDICATE WHERE EXCAVATED MATERIAL IS TO BE DUMPED TO FORM FILL.

ELEVATION TOP OF GRADE = 107.0

THE PANAMA CANAL
BUILDING DIVISION, BALBOA HEIGHTS, C.Z.

GENERAL PLAN
GATUN SCHOOL

REAR ELEVATION - EAST
SCALE 1/16" = 1'-0"

JOB 1190

SCALE: 1/16" = 1 FOOT

SEPTEMBER-21-1916

COVERED PASSAGE WAYS
WHITE SCHOOLS

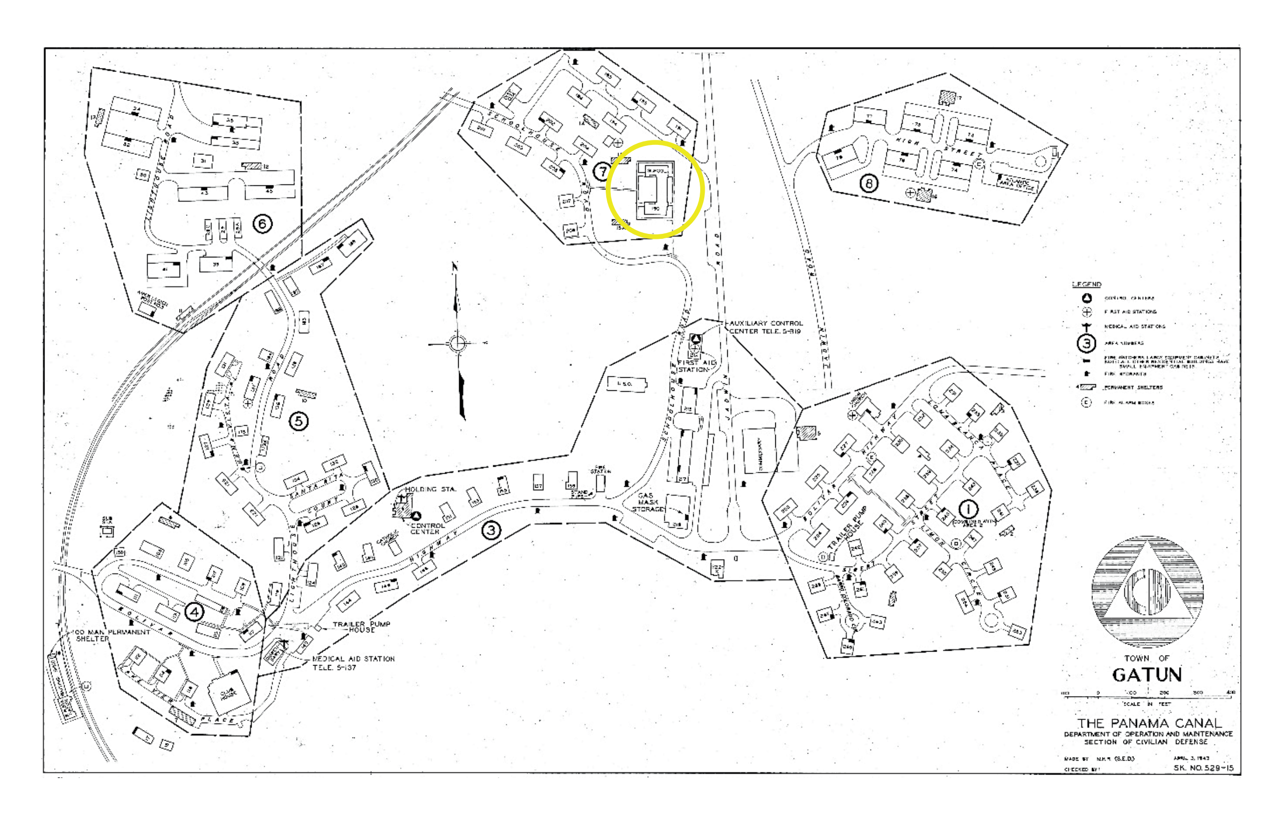
S. M. Hitt
ARCHITECT

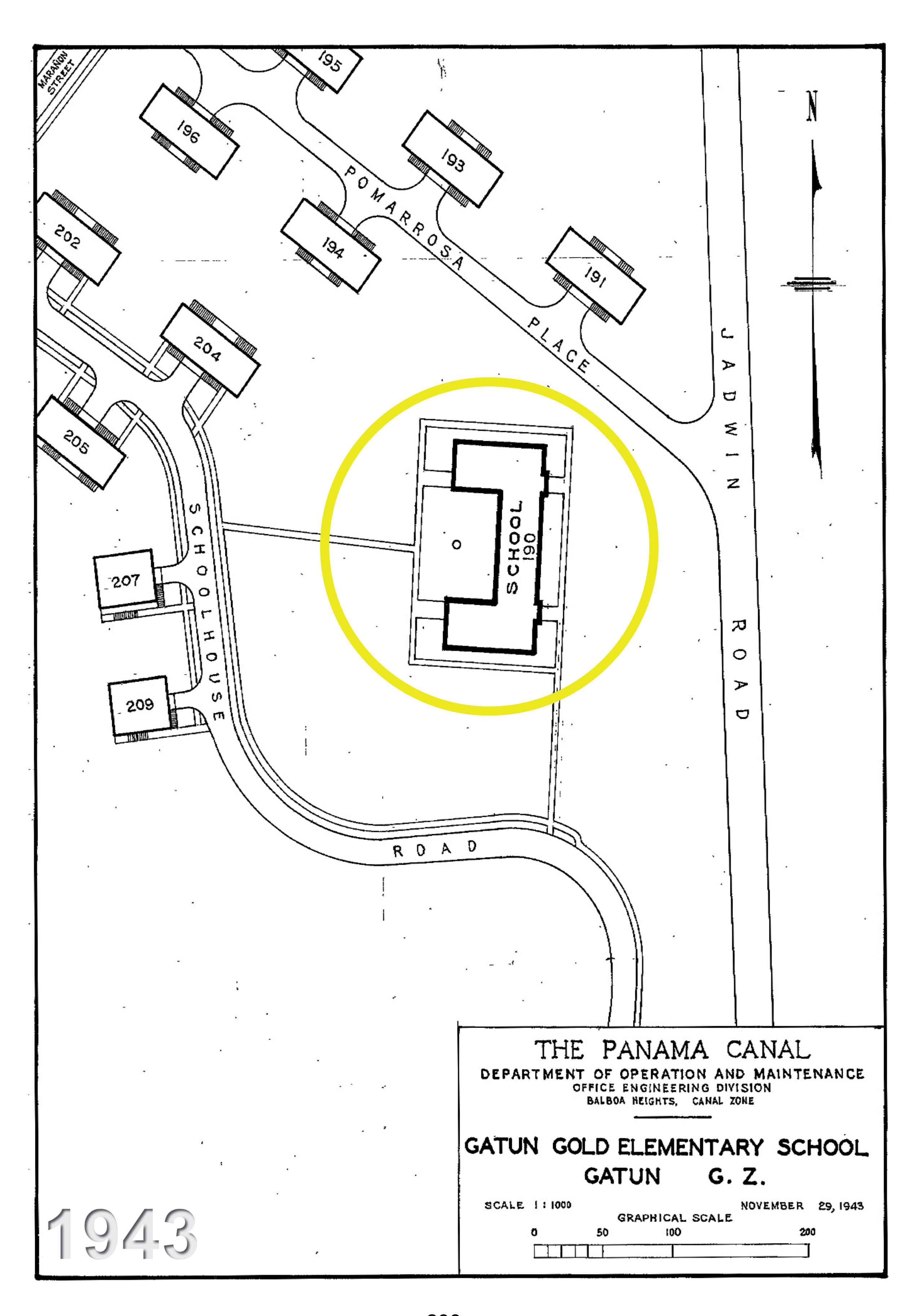
ELEVATION TOP OF GRADE = 107.00
ELEVATION TOP OF FIRST FLOOR 110.5

DRAWN BY JJOB SEPT 2 '38
SUBMITTED BY
ARCHITECT

ISSUE No. 1

2 de septiembre de 1938 (arriba) y 3 de abril de 1943 (abajo).

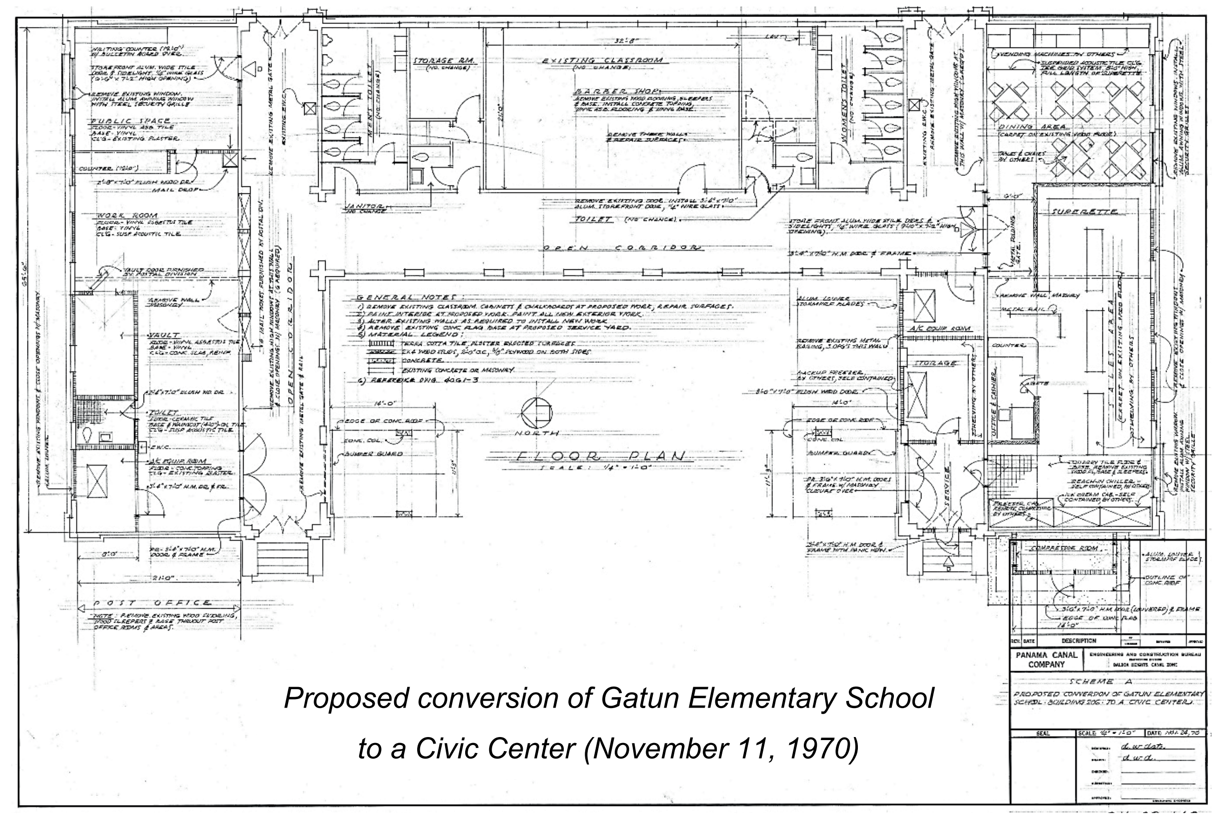



MARAÑON STREET
195
196
193
194
202
191
204
205
POMARROSA PLACE
JADWIN ROAD
N
SCHOOL 190
207
209
SCHOOLHOUSE
ROAD
THE PANAMA CANAL
DEPARTMENT OF OPERATION AND MAINTENANCE
OFFICE ENGINEERING DIVISION
BALBOA HEIGHTS, CANAL ZONE
GATUN GOLD ELEMENTARY SCHOOL
GATUN G. Z.
SCALE 1 : 1000
NOVEMBER 29, 1943
GRAPHICAL SCALE
0 50 100 200
1943

1945

13-N-45(1) Gold School, Gatun, Canal Zone April 1945





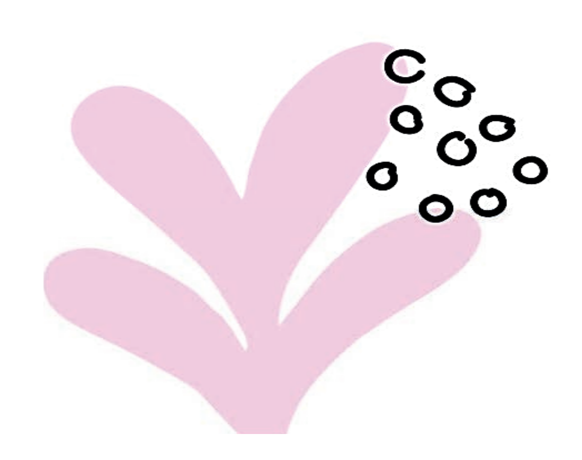
Proposed conversion of Gatun Elementary School to a Civic Center (November 11, 1970)

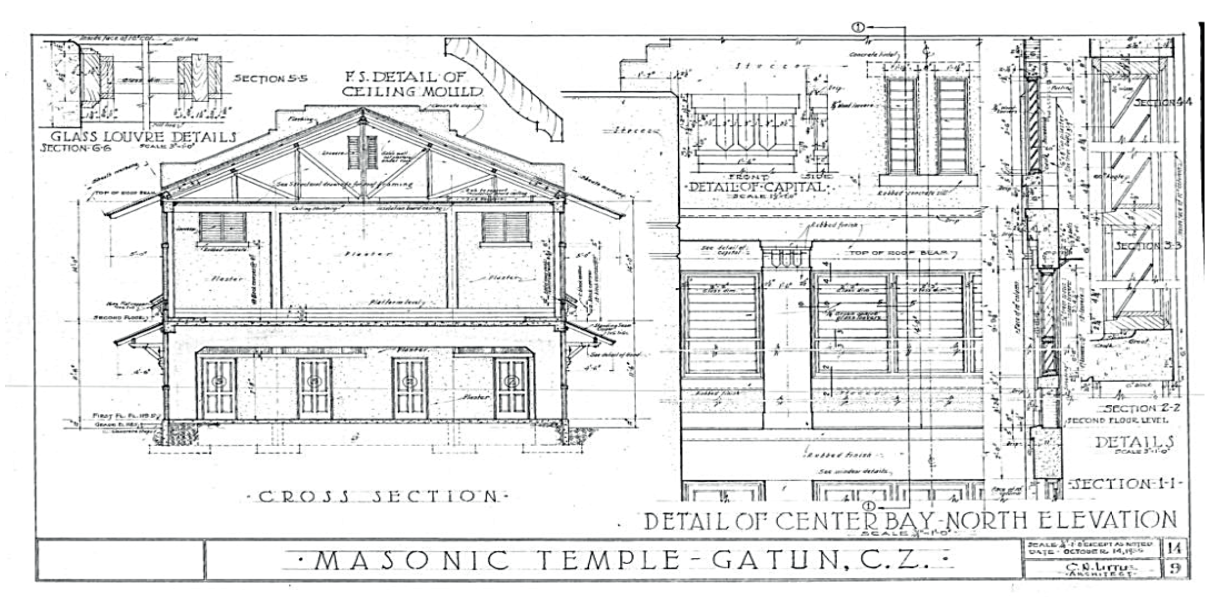


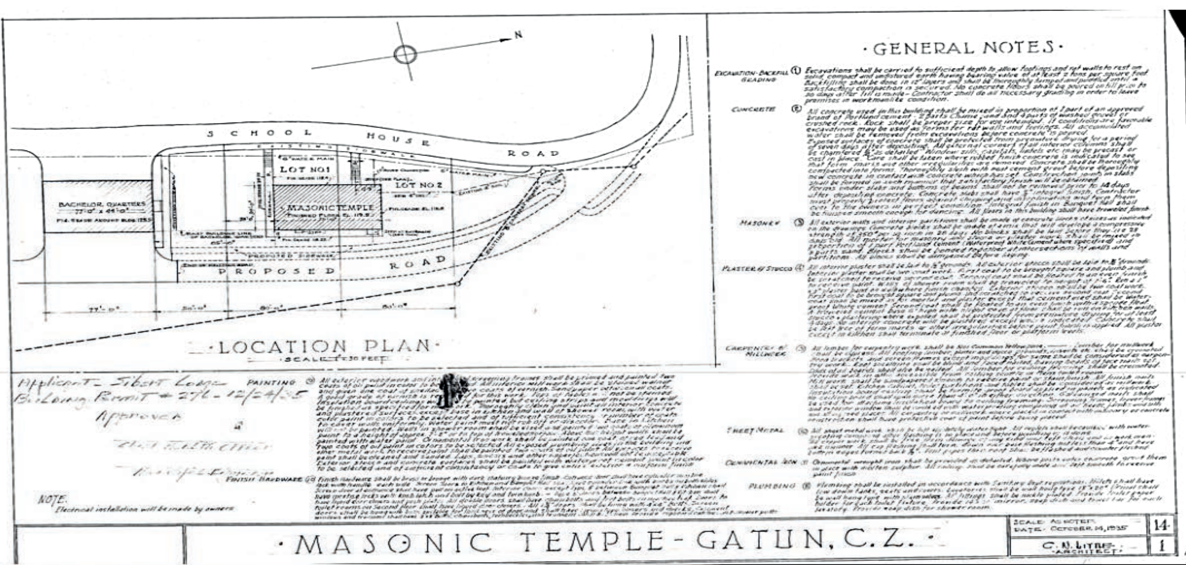
SIEBERT LODGE

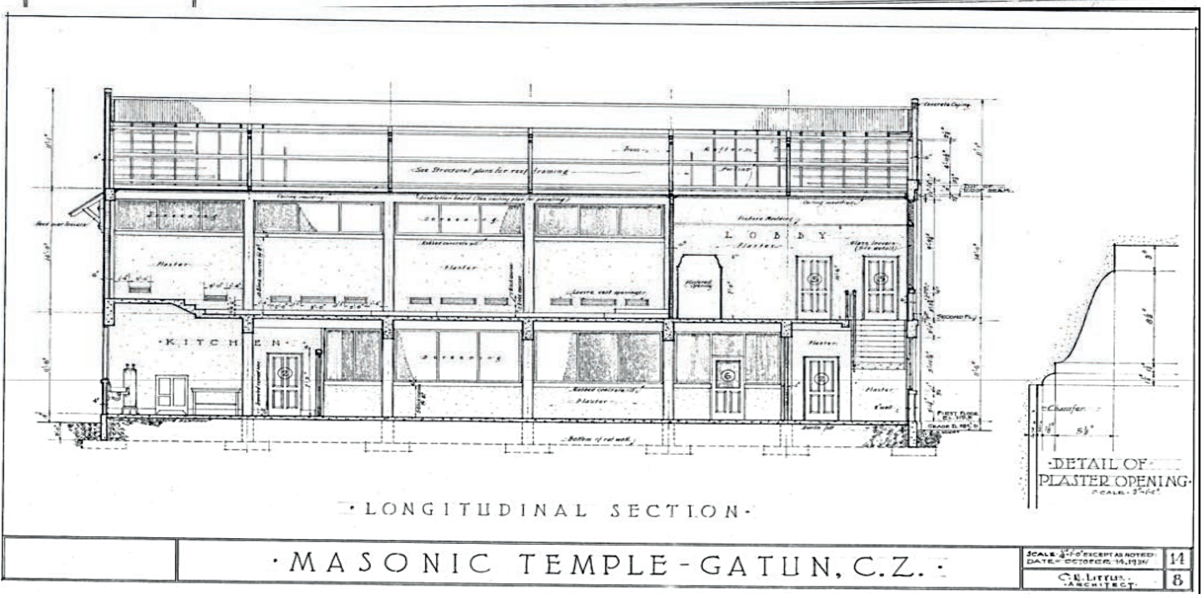
MASONIC TEMPLE GATUN

BLDG. 213




GLASS LOUVRE DETAILS
SECTION 5-5
F.S. DETAIL OF CEILING MOULD
DETAIL OF CAPITAL
CROSS SECTION
SECTION 4-4
SECTION 3-3
SECTION 2-2
DETAILS
SECTION 1-1
DETAIL OF CENTER BAY-NORTH ELEVATION
MASONIC TEMPLE - GATUN, C.Z.
C.E. LITTUS ARCHITECT
14
9


GENERAL NOTES
SCHOOL HOUSE ROAD
LOT NO 1
LOT NO 2
MASONIC TEMPLE
BACHELOR QUARTERS
PROPOSED ROAD
LOCATION PLAN
MASONIC TEMPLE - GATUN, C.Z.
C.E. LITTUS ARCHITECT
14
1


LOBBY
KITCHEN
DETAIL OF PLASTER OPENING
LONGITUDINAL SECTION
MASONIC TEMPLE - GATUN, C.Z.
C.E. LITTUS ARCHITECT
14
8

I, Kenneth E. Goldsberry, Chief, Administrative Services Division, Agency Records Officer, Panama Canal Commission, and legal custodian of Commission records hereby

C E R T I F Y :

1. That according to written authorization No. 523 issued on September 1, 1935, and amended on January 21, 1943, by The Panama Canal, an agency of the U.S. Government, the Sibert Lodge A.F. & A.M. was authorized to occupy and use a plot of land in the former Canal Zone as described below:

   Location: Gatun, Canal Zone

   Boundary Description:

   Commencing at the southwest corner of the tract at a point indicated as "A" on the attached drawing, the said point marked by a metal plug set in the concrete curb forming the easterly side of Schoolhouse Road. Thence, on a curved line following the easterly curb of Schoolhouse Road in a general northerly direction a distance of 160 feet (more or less) to a metal plug set in the said concrete curb marking the point indicated as "B" on the attached drawing. Thence, in a general easterly direction a distance of 98.43 feet to an iron rod set in concrete on the westerly edge of Jadwin Road marking the point indicated as "C" on the attached drawing. Thence, along the westerly edge of Jadwin Road and the edge of that road produced in a straight line in a general southerly direction a distance of 162.32 feet to an iron rod set in concrete marking the point indicated as "D" on the attached drawing. Thence, in a general westerly direction a distance of 141.32 feet to the point of beginning.

The above described area is shown on Panama Canal Drawing No. S 6110-90, dated December 29, 1942, a copy of which is attached to and made a part of this document.

Written authorization No. 523 issued on September 1, 1935. Page 1.

Size of premises: 19,900 square feet.

Purposes: To permit the Sibert Lodge A.F. & A.M. to construct a building to be used as a lodge hall.

2. That according to the records of the Panama Canal Commission and its predecessor agencies, Building Permits No. 276 and No. 685, issued on December 24, 1935 and November 6, 1957, were granted to the Sibert Lodge A.F. & A.M. for the construction and modification of the building, as described below:

A two story reinforced concrete building, with corrugated metal roof and central air conditioning system.

3. That the building described above was constructed at the expense of the Sibert Lodge A.F. & A.M. and, from the time of its construction to date, the maintenance of said building has been at the expense of the aforementioned organization.

4. That in accordance with the Panama Canal Treaty of 1903 and subsequent agreements, the United States of America, by virtue of and in exercise of the legal powers conferred upon it, recognized ownership rights of the Sibert Lodge A.F. & A.M over the building described in Item 2 of this certificate and, consequently, also recognized the right of the aforementioned organization to alter, remove, or demolish, as well as lease, sell, transfer, or assign or otherwise alienate said building, as a right inherent in the rights of ownership held by the Sibert Lodge A.F. & A.M.

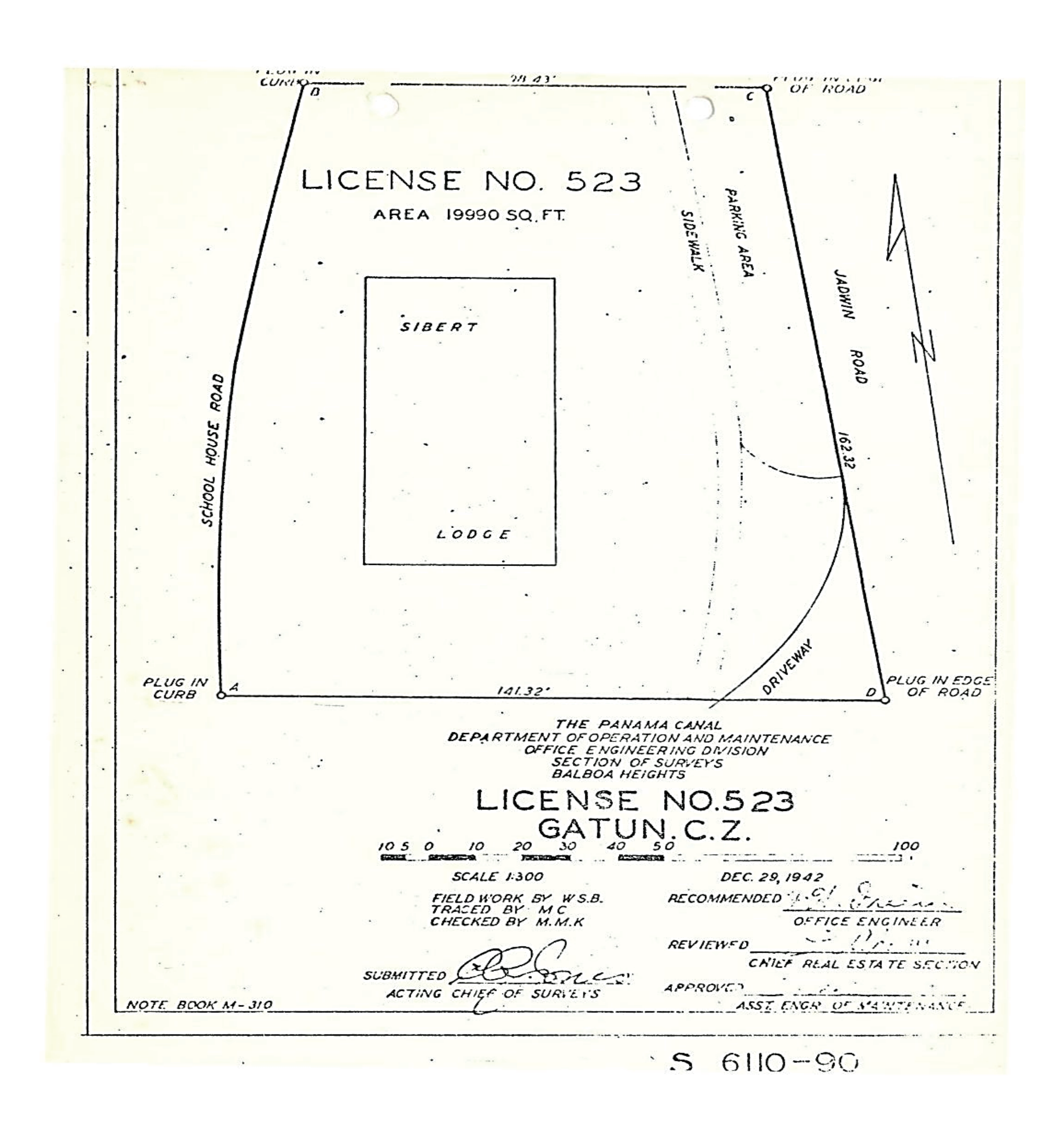
Issued for the interested party at Balboa Heights, in the city of Panama, capital of the Republic of Panama, on this twenty-fourth day of February, nineteen hundred and eighty-two.

K. E. Goldsberry

K. E. Goldsberry
Chief, Administrative Services Division
Agency Records Officer

2

Written authorization No. 523 issued on September 1, 1935. Page 2.



SIEBERT LODGE 1936-1999

Written authorization No. 523 issued on September 1, 1935. Page 3.



LICENSE TO THE SIBERT LODGE, A. F. & A. M., MODIFYING LICENSE NO. 523

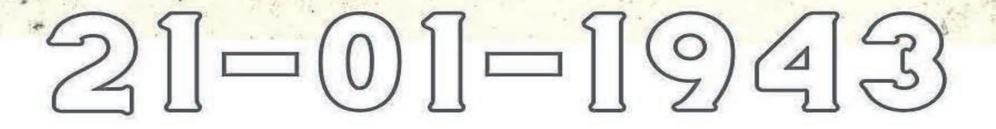
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****

THE PANAMA CANAL, represented by E. P. HAW, Chief, Real Estate Section, having by License No. 523 executed effective September 1, 1935, granted to the SIBERT LODGE, A. F. & A. M., of Gatun, Canal Zone, represented by its Secretary, H. M. LOCKWOOD, a license to occupy and use a lot located in Gatun, Canal Zone, and described in the said license as the plot of land shown on Panama Canal Drawing BS SK 503-500, as a site for the erection of a Lodge Hall, and having agreed to the modification of the said license to include in the said lot a requested additional area, does hereby modify License No. 523 in the following respect, to wit:

1. License No. 523, executed effective September 1, 1935, is hereby modified and amended by substituting for the tract of land covered by said license the tract of land indicated on Panama Canal Drawing No. 6110-90, dated December 29, 1942, print of which drawing is attached to and made part of this Instrument, and which tract is more particularly described by metes and bounds as follows:

> Commencing at the southwest corner of the tract at a point indicated as "A" on the attached drawing, the said point being marked by a metal plug set in the concrete curb forming the easterly side of Schoolhouse Road; Thence, on a curved line following the easterly curb of Schoolhouse Road in a general northerly direction a distance of 160 feet (more or less) to a metal plug set in the said concrete curb marking the point indicated as "B" on the attached drawing; Thence, in a general easterly direction a distance of 98.43 feet to an iron rod set in concrete on the westerly edge of Jadwin Road marking the point indicated as "C" on the attached drawing; Thence, along the westerly edge of Jadwin Road and the edge of that road produced in a straight line in a general southerly direction a distance of 162.32 feet to an iron rod set in concrete marking the point indicated as "D" on the attached drawing; Thence, in a general westerly direction a distance of 141.32 feet to the point of beginning; the area embraced within the foregoing described boundaries being 19,990 square feet.

2. Except insofar as this Instrument alters the description of the tract of land described in and covered by License No. 523, nothing herein shall operate to alter the terms and conditions of the said



(3) ic

original license, and the terms and conditions thereof shall remain in effect as to the tract described herein.

IN WITNESS WHEREOF, the parties hereto have executed this Instrument on this 21st day of January 1943.

THE PANAMA CANAL,

By E. P. Haw
E. P. HAW,
Chief, Real Estate Section.

WITNESS:

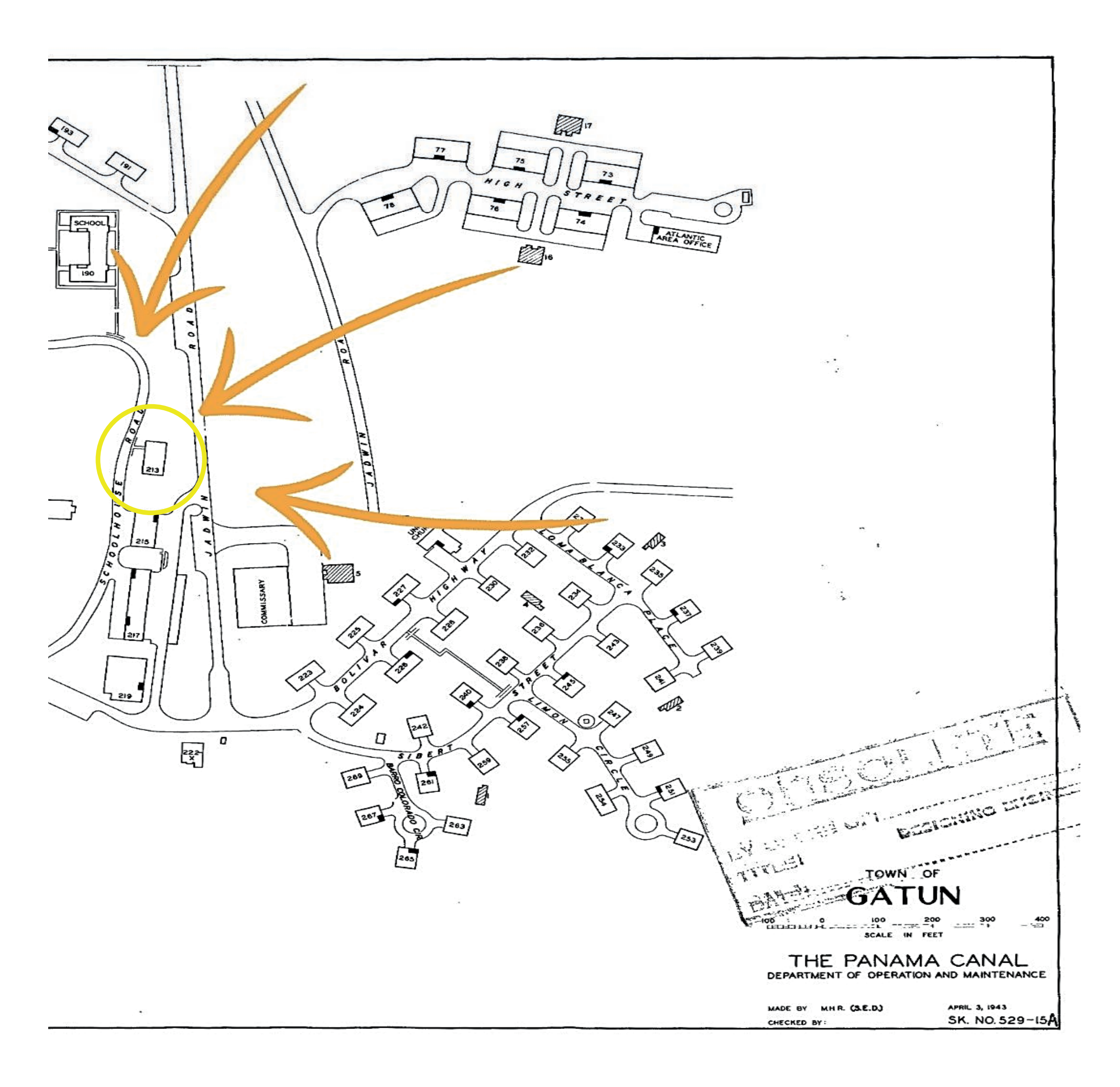
Leon J. Egolf

SIBERT LODGE, A. F. & A. M.,

By H. Mortimer Lockwood
H. M. LOCKWOOD,
Secretary.

21-01-1943

SIEBERT LODGE BUILDING 213 03-04-1943



AUTORIDAD DE LA REGIÓN INTEROCEANICA
DIRECCIÓN DE ADMINISTRACIÓN DE BIENES REVERTIDOS
DEPARTAMENTO DE ADMINISTRACIÓN DE BIENES Y TIERRAS
FORMULARIO DE INSPECCION



FECHA 3 / 4 /1997
LICENCIA Nº 523
UBICACION Gatun
CORREGIMIENTO
USUARIO SiBert Lodge
EDIFICIO Nº 213

USO ACTUAL DEL BIEN
Salon de reuniones
Reuniones despues de horas de Oficinas

BREVE DESCRIPCION DEL BIEN
construccion de con techo de Zinc

OBSERVACIONES
Administra la comision del canal de Panama (Terreno)

LINDEROS

NORTE:
SUR:
ESTE:
OESTE:

INSPECTOR:

03-04-1997

RECIBIDO
4 OCT '01
FIRMA

ARI

AUTORIDAD DE LA REGIÓN INTEROCEÁNICA
DIRECCIÓN DE BIENES REVERTIDOS

MEMORANDO No. 2924 / DBR / Caa / dab – 2001

PARA: **Lic. Harry Díaz**
Director de Asesoría Legal

DE: **Ing. Osvaldo De Sedas**
Director de Bienes Revertidos

ASUNTO: **REMISION DE EXPEDIENTES LICENCIAS DE GATUN**

FECHA: 01 de octubre de 2001

Continuando con el trámite de transferencia a la Autoridad del Canal de Panamá, de las licencias de uso de tierras, que han quedado incluidas en las fincas de patrimonio de dicha entidad, remitimos los expedientes originales de las licencias que se muestran en el cuadro adjunto, todas ubicadas en la comunidad de Gatún, corregimiento de Cristóbal, distrito y provincia de Colón.

Aclaramos que las licencias Nº 1412 y 1794, ambas a nombre de Gatun Saddle Club, tienen una morosidad al 30 de septiembre del presente año de B/. 152,625.00 y B/. 137,775.00 respectivamente, por lo que consideramos que la Dirección a su cargo debe proceder con las diligencias legales necesarias, antes de traspasar dichas licencias a la Autoridad del Canal de Panamá.

ODS / ah / rg

Adj. Lo indicado

4/x/01

01-10-2001

REPUBLICA DE PANAMA

AUTORIDAD DEL CANAL DE PANAMA

Solicitud de Licencias para Uso de Tierras

Autoridad del Canal de Panama
Oficina Regional
DE COLON

I. DATOS GENERALES:

1. Solicitante:

James B. Wallace SIBERT LODGE A.F. & A.M. — XXXXXXXXXX
(Nombre del Solicitante) — (Cédula N°)

Jadwin Road — No. 213
(Calle o Avenida) — (N° de Edificio y/o Oficina)

Colon — Gatun
(Provincia) — (Distrito)

Apt. 1121 Cristobal — 43-5319
(Apdo. Postal - Zona) — (Teléfono-s)

2. Representante Legal:

James B. Wallace — IP 127396 — 004-14-9854
(Nombre) — (Cédula N°) — (S. S. N°)

0356 France Road, France Field — 43-6633 — 43-2718
(Dirección) — (Tel. Res.) — (Tel. Ofic.)

Box 1193, Ft. Davis, RP
(Apdo. Postal - Zona)

(N° de Licencia Comercial) — (Clase) — (Fecha)

(N° de R. U. C.) — (N° de Registro Patronal)

3. Referencias Personales: (Para personas naturales

a. (Nombre) — (Dirección)

(Lugar de Trabajo) — (Tel. Ofc.) — (Tel. Res.)

b. (Nombre) — (Dirección)

(Lugar de Trabajo) — (Tel. Ofc.) — (Tel. Res.)

SIEBERT LODGE BUILDING 213-1

USUARIO ______ LOCALIZACION CALLE JADWIN N°213 GATUN

Tarjeta No. 1 De 1

CLASE ____ TIPO ____

CONDICION FISICA OBSERVADA: Regular ____ SemiRegular ____ ✓ Mala ____ Pésima ____

TIPO Y USO			
Vivienda Unifamiliar			
Vivienda de dos Familias			
Apartamentos sin elevador			
Apartamentos con elevador			
Casas Comunales			
Edificios Públicos			
Oficinas		Depósitos	
Hotel		Almacenes	
Restaurante		Banco	
Teatro		Garages	
Estación-Gasolina		Industrias	
Otros LOGIA			✓

1. CIMIENTOS			
Mampostería	✓	Pilotes	

2. PAREDES EXTERIORES			
Bloques de concreto o arcilla			✓
Con repello	✓	Sin repello	
Piedra		Piedra repellada	
Madera		Ladrillo	
Adobe		Otros	

3. ESTRUCTURA DEL TECHO			
Madera	✓	Concreto	
Acero		Otros	

CUBIERTA DEL TECHO			
Compuesto		Aluminio	
Zinc	✓	Teja	
Asbesto		Otros	

4. PORTALES			
Abierto	·	Cerrado	·

5. PISOS V.I.A.			
Cemento		Baldosas cemento	✓
Baldotex		Congrani	
Madera		Otros VINYL	✓
Cerámica en el baño	Si	No	✓
Cerámica en la cocina	Si	No	✓

6. ACABADO INTERIOR			
Ninguno		Cartón	
Madera		Repello	
Otro			
Azulejos en baño	Si	No	✓
Azulejos en cocina	Si	No	✓

7. PLOMERIA		
Ninguna	Agua solamente	
No. de Servicios Sanitarios	3 artefactos	1
	2 artefactos	—
No. de artefactos diseminados		4

8. ELECTRICIDAD				
Ninguna	110 v.	✓	220 v.	✓

9. REPARTO INTERIOR V.I.A.

Vivienda Unifamiliar: No. de cuartos			
Apartamentos: No. apts		No. cuartos	
Oficinas: Tipo		Area	

10. ASCENSORES		
Tipo	Número	Pisos
Pasajeros	—	—
Carga	—	—

11. OTRAS MEJORAS				
Mejora	Tipo	Ancho	Largo	Area
Piscina				
Caminos				
Area bajo techo	11G	4.00	8.50	
Terrazas				

AIRE ACONDICIONADO EN TODO EL EDIFICIO
Ductos ✓ Refrig. ____ Area ____

INFORMACION SOBRE EDAD			
Fecha de Construcción	1936	Edad	44A
Edad Conocida	✓	Estimada	
Adiciones: Edad		Tipo	

FUENTE DE INFORMACION

Registrado por	DESPAIGNE	Fecha	23-6-80
Clasificado por		Fecha	
Calculado Estruc.		Fecha	
Calculado Tierra		Fecha	
Revisado por		Fecha	
Revisión Final		Fecha	

Aprobado:
Jefe de Avaluos
Fecha:

EDAD EFECTIVA: Fecha ____ Edad ____
1 Cuadrado = ____ Mts

E① B② A② C② D②
2.90 3.08 11.65 11.65 11.65 5.95 13.95 5.65 3.00 6.00 3.00

CALCULOS DE AREAS DE EDIFICIOS							PORTALES				
No. de Pisos	Sección	Ancho	Largo	Area	Area Pisos	Altura en mts	No.	Pisos	Ancho	Largo	Area
2	A	13.95	11.65								
2	B	5.95	11.65								
2	C	3.00	5.65								
2	D	3.00	6.00								
1	E	3.08	2.90								
			AREA TOTAL:								

CALCULOS DE VALORES DE TIERRA							
Superficie	Valor Ideal por M2	F. Frente	F. Fondo	F. Forma	R. Esquina	V. Unit. Ajust.	Valor Parcial
						VALOR TOTAL DEL TERRENO	

CALCULOS DE VALORES DE EDIFICIOS			
Art. No.	Area o Cantidad	Costo Unitario	TOTAL

AJUSTES

COSTO DE REEMPLAZO B/	
Factor de Conversión	
Costo de Reemplazo Ajustado B/	

DEPRECIACION Y OBSOLESCENCIA

DEPRECIACION	
a. Edad Efectiva Depreciada	%
b. Condición Física Observada	%
c. Depreciación Total (a + b)	%
d. Condición Neta (100-c)	%
OBSOLESCENCIA	
e. Sobremejoras	%
f. Desmejoras	%
g. Otros	%
h. Condición Neta (100-e+f+g)	%
i. CONDICION NETA FINAL (dxh)	%

SUMARIO DE VALORES COMPUTADOS	
Valor del edificio Principal B/	
Valor de otros Edificios B/	
Valor de Adiciones B/	
VALOR TOTAL DE EDIFICIOS B/	
VALOR TOTAL DE TIERRA B/	
VALOR TOTAL COMPUTADO B/	

Impresora de La Nación INAC

REPUBLICA DE PANAMA
MINISTERIO DE HACIENDA Y TESORO
DIRECCION GENERAL DE CATASTRO
REGISTRO Y AVALUO DE PROPIEDAD URBANA

LOCALIZACION DE LA PROPIEDAD
Ciudad COLON PROV. COLON
Calle JADWIN N: 213 (Número / Nombre)
Urbanización o Corregimiento GRISTOBAL
Mapa ____ Manzana ____ Lote ____

INFORMACION DE REGISTRO
Finca ____ Tomo ____ Folio ____
No. Orden del Registro

LIMITACIONES NATURALES DEL TERRENO

INCLINACION O PENDIENTE	Plano -10%	✓ S.Plano 10-30%	Inclin. 30-60%	M.Inclin. +60%
APROVECHAMIENTO	mas de 75%	✓ entre 50-75%	entre 25-50%	menos 25%

USO DE LA TIERRA EN LA MANZANA

Residencial	✓	Educacional	
Comercial		Industrial	
Recreo		Otros Usos RELIGIOSO	✓

MEJORAS DE LA TIERRA

Aceras	✓	Cordón	✓
Acueducto	✓	Tubería Gas	
Alcantarillado			✓

CALLES

Concreto	✓	Asfalto		Grava	
Tierra		Vereda		Ninguna	

REGISTRO DE PROPIETARIO
Nombre
Cédula ____ Ciudad
Calle ____ Número ____ Nombre
Apartado Postal

TRASPASO DE PROPIETARIO
Nombre
Cédula ____ Ciudad
Calle ____ Número ____ Nombre
Apartado Postal

TRASPASO DE PROPIETARIO
Nombre
Cédula ____ Ciudad
Calle ____ Número ____ Nombre
Apartado Postal

TRASPASO DE PROPIETARIO
Nombre
Cédula ____ Ciudad
Calle ____ Número ____ Nombre
Apartado Postal

REGISTRO DE TRASPASOS		
Fecha	Precio Registrado	Precio Confirmado

REGISTRO DE RENTAS				
Planta	Número de Unidades	Tipo de Unidades	Renta por Unidad	Renta Total

INFORMACIONES ADICIONALES
SALON COMEDOR - CTO. 1
COCINA CTO. 3
SALON DE CULTOS. CTOS. 4
OFICINA CHICA. 1
RECIBIDOR CTO. 1

COCINA: B①
SALON DE CULTO: A① C① D①
OFICINA: C①
RECIBIDOR: D①
COMEDOR: A①

PISOS: PLANTA BAJA
BALDOSA DE CEMENTO

PLANTA ALTA
PISO DE VYNIL.

ADICIONES											
Clase	Edad	Paredes	Techo	Piso	Ancho	Largo	Area	Costo Unitario	Costo Total	Condición Neta	Valor Computado
										TOTAL	

SIEBERT LODGE BUILDING 213-2

AUTORIDAD DEL CANAL DE PANAMÁ

SISTEMA DE CONSULTA DE ACTIVOS FIJOS

Impreso: 3-JUN-2022 09:24 AM

INFORME DE DETALLE DEL ACTIVO

Creado por: XJaen

Abril 2022

Información Histórica

Activo	128505	
Unidad de Negocio	80	Infraestructura e Ingeniería
Categoría	80.CAP.050011	MATERIALES COMPUESTOS, PISO DE CONCRETO, COLUMNAS DE MADERA, PAREDES DE MADERA ETC.
Ubicación	80.080038	EDIFICIOS AREA, GATUN
Función	804101	INOA Admón de Activos de Infraestructura
Cuenta de Costo	108206	Edificios
Asset_Key	000000.0000000	
Descripción	EDIFICIO 213, GATÚN	

EDIFICIO 213, GATÚN, ÁREA DE 530.23 MTS2,
CONSISTENTE EN LA ANTÍGUA LOGIA,
FINCA 16214, UBICADA EN GATÚN.
REEMPL ACT 107289
REEMPLAZA ACT 109018

Fecha en Servicio	8/1/2015
Vida Util del Activo (Años / Meses)	040/00
Vida Util Transcurrida (Años /Meses)	6/9
Vida Util Remanente (Años / Meses)	33/3

Costo Original	0.00
Costo Actual	0.00
Depreciación Acumulada	0.00
Valor Neto en Libros	0.00

Identificación
Modelo
Serie
Fabricante

03-06-2022
SIEBERT LODGE
BUILDING 213



1936-1999 SIEBERT LODGE BUILDING 213


CALENDAR
5
6
4
7
8
10
11
REHEARSAL
13
14
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16
17
19



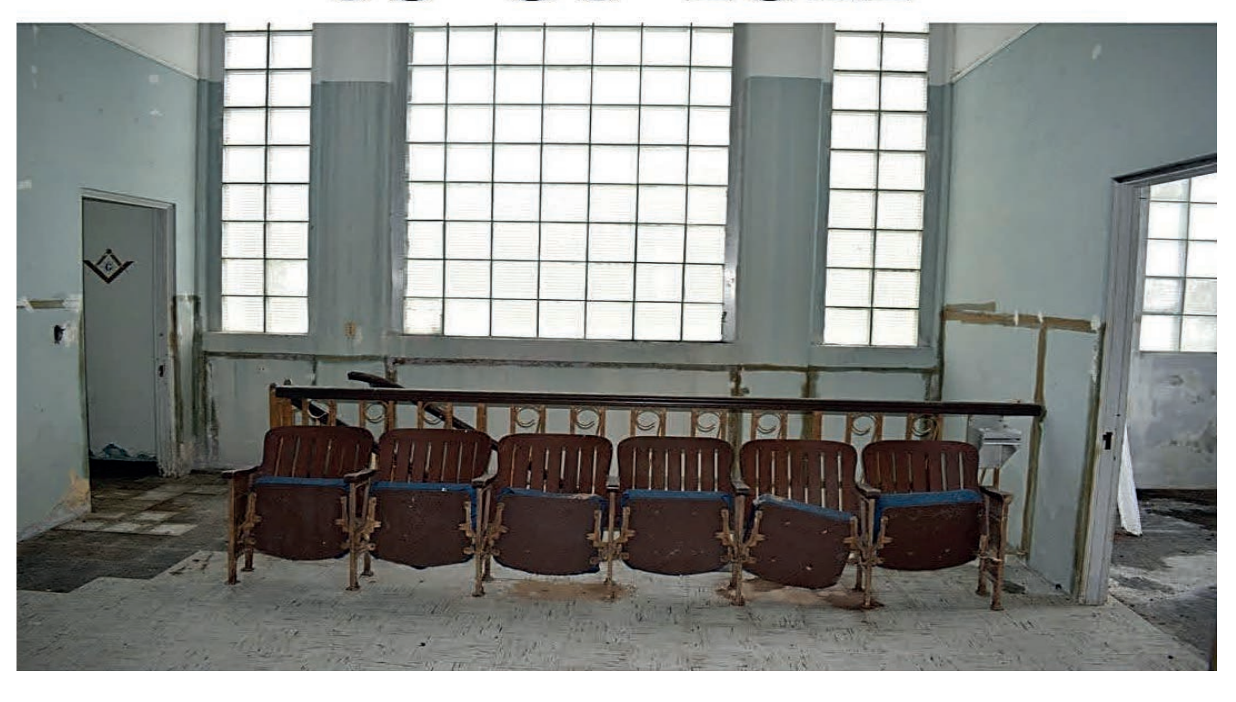
MASONIC TEMPLE GATUN 30-03-2022




ASTRONOMY
MUSIC
CORINTHIAN
IONIC
DORIC



MASONIC TEMPLE GATUN 30-03-2022







MASONIC TEMPLE GATUN 30-03-2022



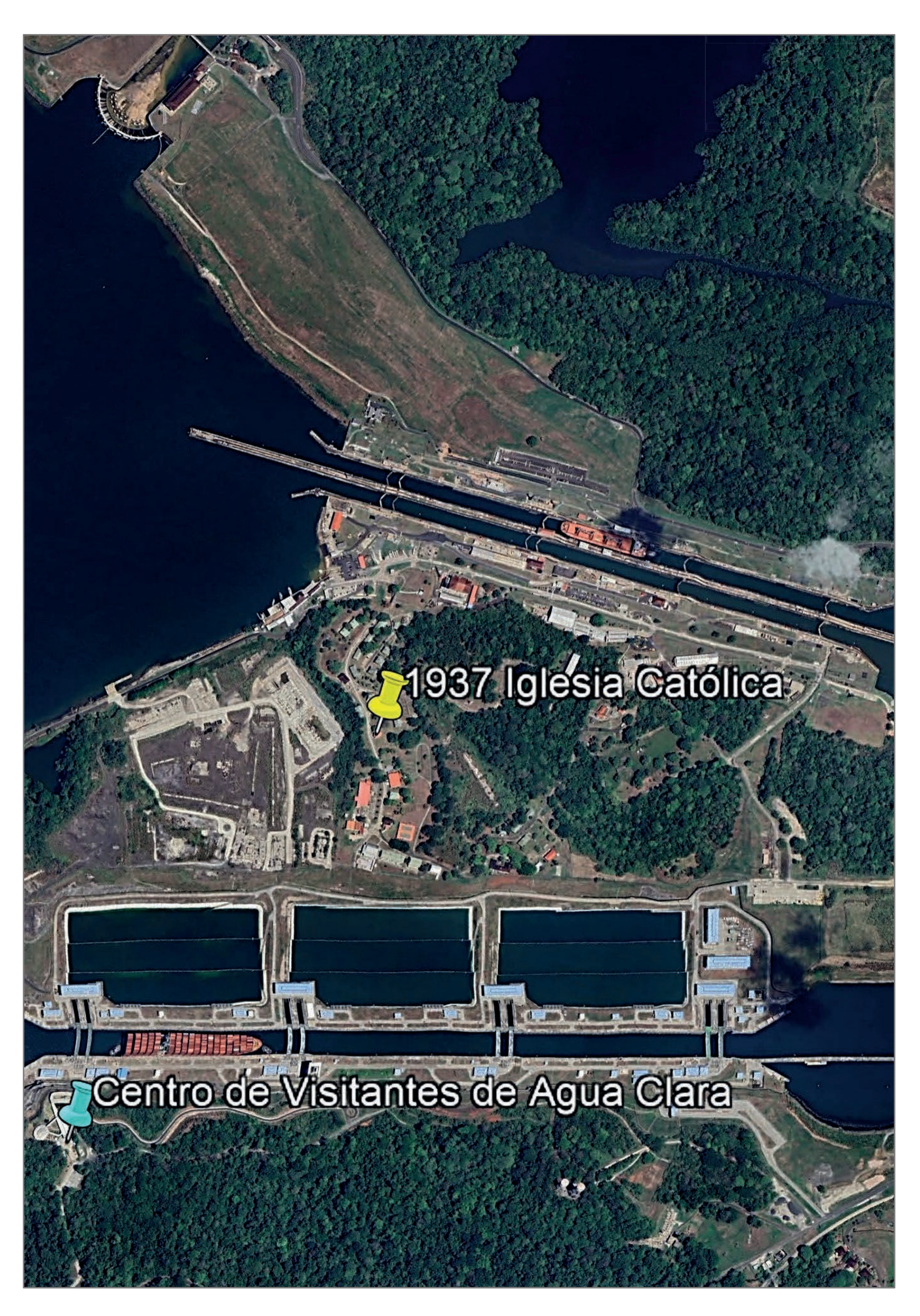
Misión de la Inmaculada Concepción de la Iglesia Católica Romana - Edificio 147

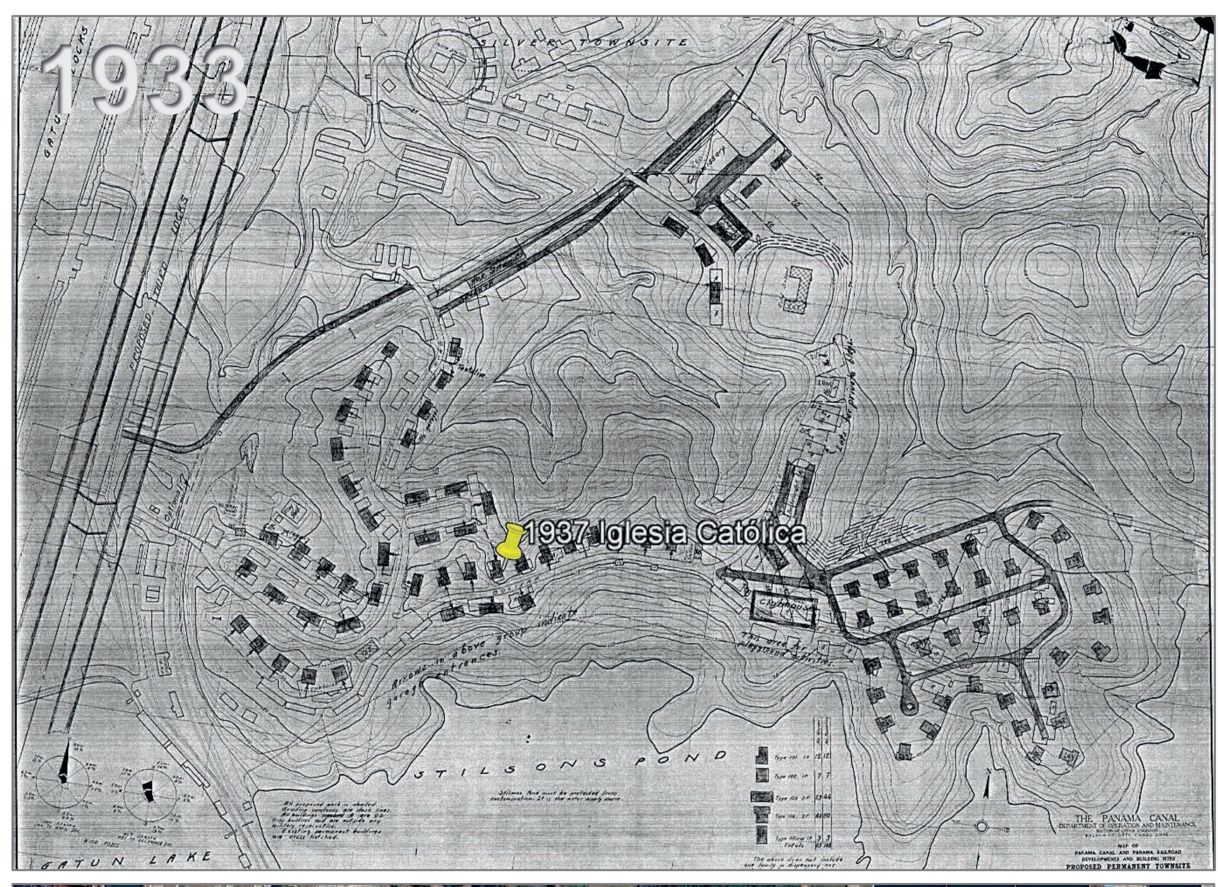
La Iglesia Católica de Gatún fue inaugurada en 1937 para atender las necesidades espirituales de la comunidad católica del poblado de Gatún, una localidad clave en la operación del Canal de Panamá. Su edificación se dio en un contexto de crecimiento urbano y social impulsado por la presencia de trabajadores y familias vinculadas a la Zona del Canal. Construida en estilo sencillo pero funcional, la iglesia se integró rápidamente a la vida cotidiana del poblado, convirtiéndose en un símbolo de fe y cohesión comunitaria.

Durante más de seis décadas, esta iglesia fue testigo de numerosas celebraciones religiosas, bodas, bautizos, misas dominicales y festividades tradicionales. Fue también un punto de encuentro para generaciones de residentes, tanto de la Nómina de Oro como de la Nómina de Plata, reflejando la diversidad cultural de la región canalera. En su interior, la iglesia albergaba una modesta decoración que resaltaba su carácter acogedor y espiritual.

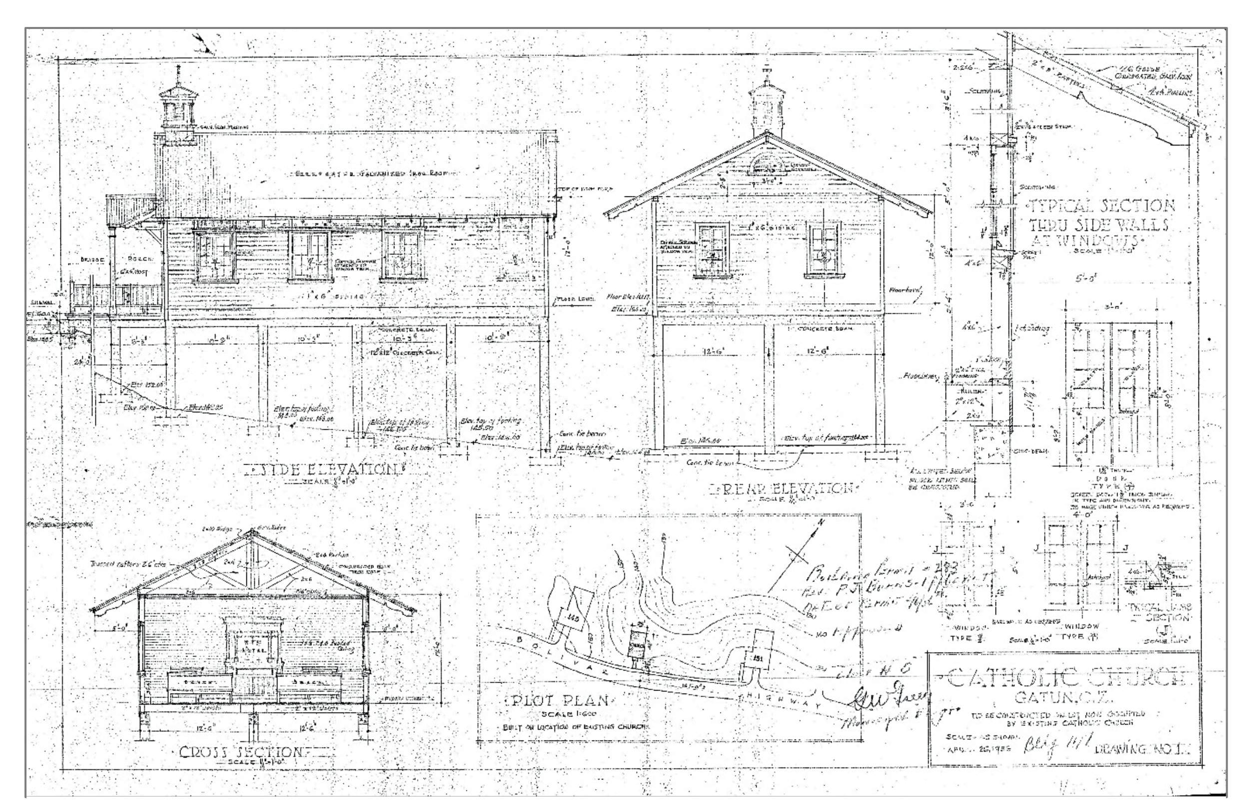
Con el paso del tiempo, y especialmente tras los procesos de reversión de la Zona del Canal en la década de 1990, la población de Gatún disminuyó considerablemente. Esta disminución, sumada al abandono institucional y a la falta de asignación de recursos para su mantenimiento, llevó al cierre definitivo del templo en 1999. Desde entonces, el edificio quedó desprotegido y expuesto al deterioro, abandono y vandalismo dentro de la ACP (ver fotos).

A la fecha de hoy (2022), la Iglesia Católica de Gatún yace en ruinas, como un vestigio olvidado de la historia religiosa y social del Canal de Panamá. Su estado actual de abandono representa una pérdida significativa para el patrimonio cultural del Canal de Panamá y la provincia de Colón. No obstante, sigue siendo un símbolo latente de la memoria colectiva del poblado de Gatún, despertando el interés de historiadores, antiguos residentes y promotores de la conservación, que buscan rescatar y preservar este valioso legado histórico.


1937 Iglesia Católica
Centro de Visitantes de Agua Clara

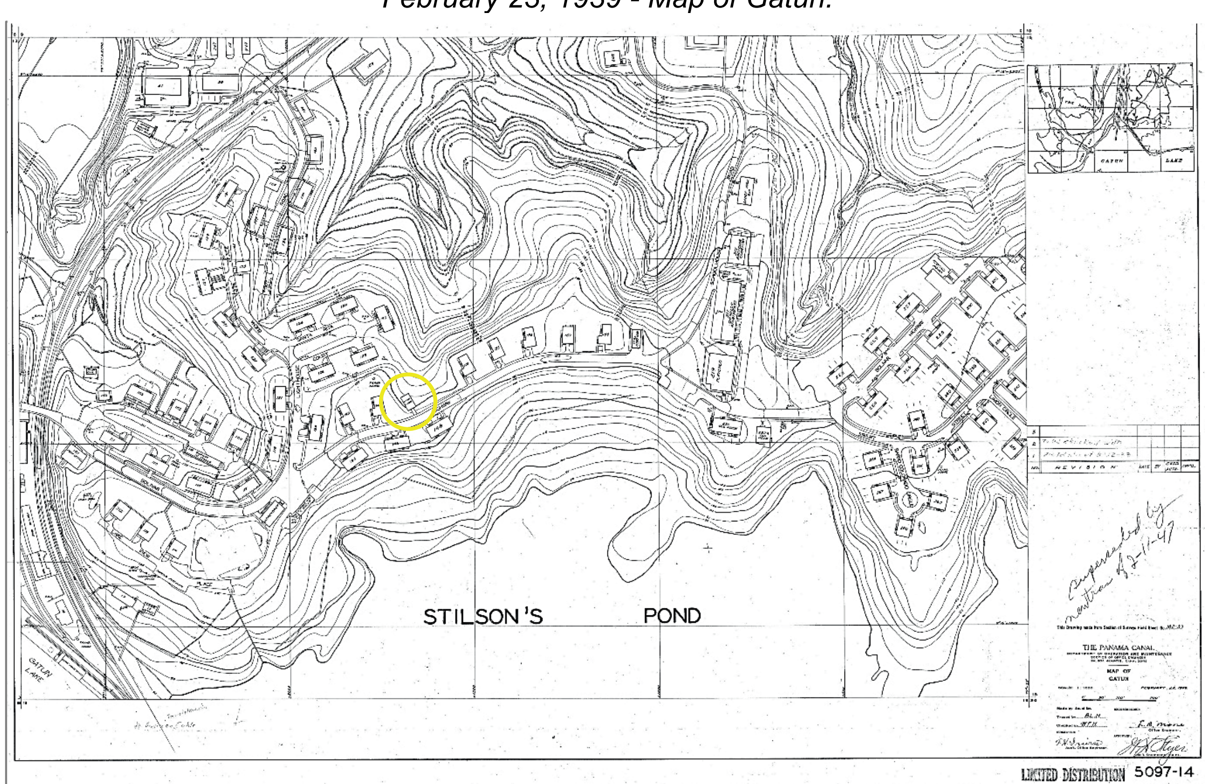

1933
SILVER TOWNSITE
1937 Iglesia Católica
STILSONS POND
GATUN LAKE
THE PANAMA CANAL
PROPOSED PERMANENT TOWNSITE


1937 Iglesia Católica



April 26, 1936 - Catholic Church to be constructed.

February 23, 1939 - Map of Gatun.



COPIED-psp
4/3/43

March 29, 1943.

Mister L. W. Lewis
Acting Chief Quartermaster
Balboa Heights, C. Z.

Dear Sir:

For the past two years the Immaculate Conception Catholic Church situated in the Gold section of Gatun, Canal Zone, has proven inadequate to accomodate the number of people desirous of attending services in that church every Sunday morning. When the congestion first started we received a special permission through the Bishop to have a second Mass. We are unable to add another because of a shortage of priests. We are therefore asking permission to put an extension of thirty feet onto the back of the church according to the specifications of the present building.

If this permission is granted will the necessary building materials be available for our use?

Thanking you for your kindness, I am,

Sincerely,

(signed) Rev. Edward Sheehan, C.M.

(1) Office Engineer:

Pls. prepare B.S. sketch.

LWL 3/31/43.

(2) Assistant Chief Quartermaster (Through Chief, Real Estate Section)

Attached prints of SK. 503-890 show the proposed extension. So far as is known there never has been a license issued to this church and it is suggested that this be done.

CC - Chief, Real Estate Sec.(w/3 prints, SK. 503-890).
CC - Office Engineer

F. H. IRWIN
Office Engineer

JED"psp

Ancon, Canal Zone,
April 20, 1943.

MEMORANDUM TO EXECUTIVE SECRETARY:
(thru Chief Quartermaster and Acting General Counsel)

1. Investigation of files confirms statement of Office Engineer that no license was ever issued covering the concerned Catholic Church site in Gatun. The present site has been occupied for a considerable number of years. It is not clear from the files as to date on which such authority was issued. Apparently failure to issue a formal license covering the site was an oversight. It is believed that the limitations on granting sites to religious organizations in the vicinity of new locks construction localities (see accompanying file 33-B-22/2) does not necessarily apply to this case where the site is already occupied.

2. In line with suggestion of Office Engineer there has been prepared License No. 640 covering the requested enlarged site, copy of which is attached for your review and authority to proceed with the execution of same. The license is drafted in standard form as employed for all recent church site grants in the Canal Zone.

3. It is believed that action by Building Sites Committee should preceed the granting of this license in confirming approval of the enlarged site.

E. P. HAW,
Chief, Real Estate Section.

Enclosures:
File 33-B-22/Catholic, Part 2,
Cpy. License 640.

EPH-bne

Balboa Heights, C. Z.,
April 27, 1943.

MEMORANDUM TO THE GOVERNOR:

With reference to attached correspondence the Building Sites Committee recommends that enlarged site shown on print of SK 503-890 be assigned to the Immaculate Conception Mission of the Roman Catholic Church, for use as a church site. This site is located on the northerly side of Bolivar Highway and is between quarters numbered 145 and 151, Gatun.

M. C. STAYER, Chairman,
Building Sites Committee

Enclosure

cc Chief Quartermaster
Office Engineer
General Superintendent, Building Division
Chief, Real Estate Section
Municipal Engineer

Ancon, Canal Zone,
April 30, 1943.

The Reverend John S. Hild, C.M.,
St. Mary's Mission,
Box 2020, Balboa, C. Z.

Dear Sir:

Herewith for your execution Canal Zone License No. 640 covering the site of your Immaculate Conception Mission church in Gatun. This license is being sent to you for execution on instructions of the Rev. Sweeney.

This license covers an extension in area of the lot formerly occupied by your referred to Gatun Church, as requested in letter from the Rev. Sheehan dated March 29, 1943.

Investigation revealed that no license had ever been issued covering the original site occupied by this church. The attached license makes provision for covering the grant for the original site, together with the recently requested extension.

Please sign all six copies and return to this office for final execution.

Yours very truly,

E. P. HAW,
Chief, Real Estate Section.

Enclosure:
Lciense No. 640 (6 copies)

EPH-bne



CANAL ZONE LICENSE TO THE IMMACULATE CONCEPTION MISSION COVERING A CHURCH SITE IN GATUN

****

License No. 640

THE PANAMA CANAL, represented by E. P. HAW, Chief of Real Estate Section, hereby grants to the IMMACULATE CONCEPTION MISSION of the Roman Catholic Church, represented by the Reverend JOHN S. HILD, C.M., a license to use and occupy a tract of land located in Gatun, Canal Zone, for use as a church site; the boundaries of the said tract of land being as indicated on Panama Canal Drawing SK-503-890, dated April 1, 1942, print of which drawing is attached hereto and made part of this license, and being more definitely described as follows:

> A plot of land located on the northerly side of Bolivar Highway and between Canal Zone quarters Nos. 145 and 151 in the town of Gatun; the said plot measuring 100 feet in depth from the inside edge of the sidewalk on the northerly side of the said highway by 50 feet in width, with the center line of the existing church structure forming the longitudinal center line of the lot.

This license is granted subject to the following terms and conditions:

(a) That the tract of land granted shall be used exclusively as a building site for a Chapel to be used for the conducting of religious services and as a place of worship for the congregation of the (Catholic) Mission of the Canal Zone.

(b) That the land covered by this license and any and all existing structures or structures that may later be erected thereon, shall be maintained in conformity with the building, health, police and fire laws and regulations, as well as all other pertinent laws and regulations of the Canal Zone, now or hereafter in effect.

(c) That this license is granted free of any rental and shall continue in force and effect from the date of its execution until revoked or otherwise terminated, as hereinafter provided.

(d) That no new structure or structures shall be erected, or alterations or additions to existing structures made on the land covered by this license until plans for such new structures or alterations to existing structures shall have been approved by The Panama Canal and the required building permits secured.



(e) That the Licensee agrees to pay any taxes lawfully assessed against it or upon any improvements on the said plot, anything in this license to the contrary notwithstanding.

(f) That the Governor of The Panama Canal may revoke this license at any time upon 30 days' notice to the Licensee.

(g) That this license is not assignable.

(h) That within 90 days after the termination of this license, whether by revocation or otherwise, the Licensee shall vacate the plot of land covered by this license, remove all property and improvements therefrom and restore said plot to a condition satisfactory to the Governor of The Panama Canal or his representative. In the event of the neglect or failure of the Licensee so to remove said improvements and property and to perform the necessary work of restoration, then the remaining said improvements and property shall become the property of the United States without compensation therefor: Provided, however, that The Panama Canal may cause the said property to be removed and the premises restored at the expense of the Licensee, and, in either event, no claim for damages against The Panama Canal or the United States or its officers or agents shall be created by or made on account thereof.

IN WITNESS WHEREOF, the parties hereto have caused the execution of this instrument in sextuplicate on this 1st day of May, 1943.

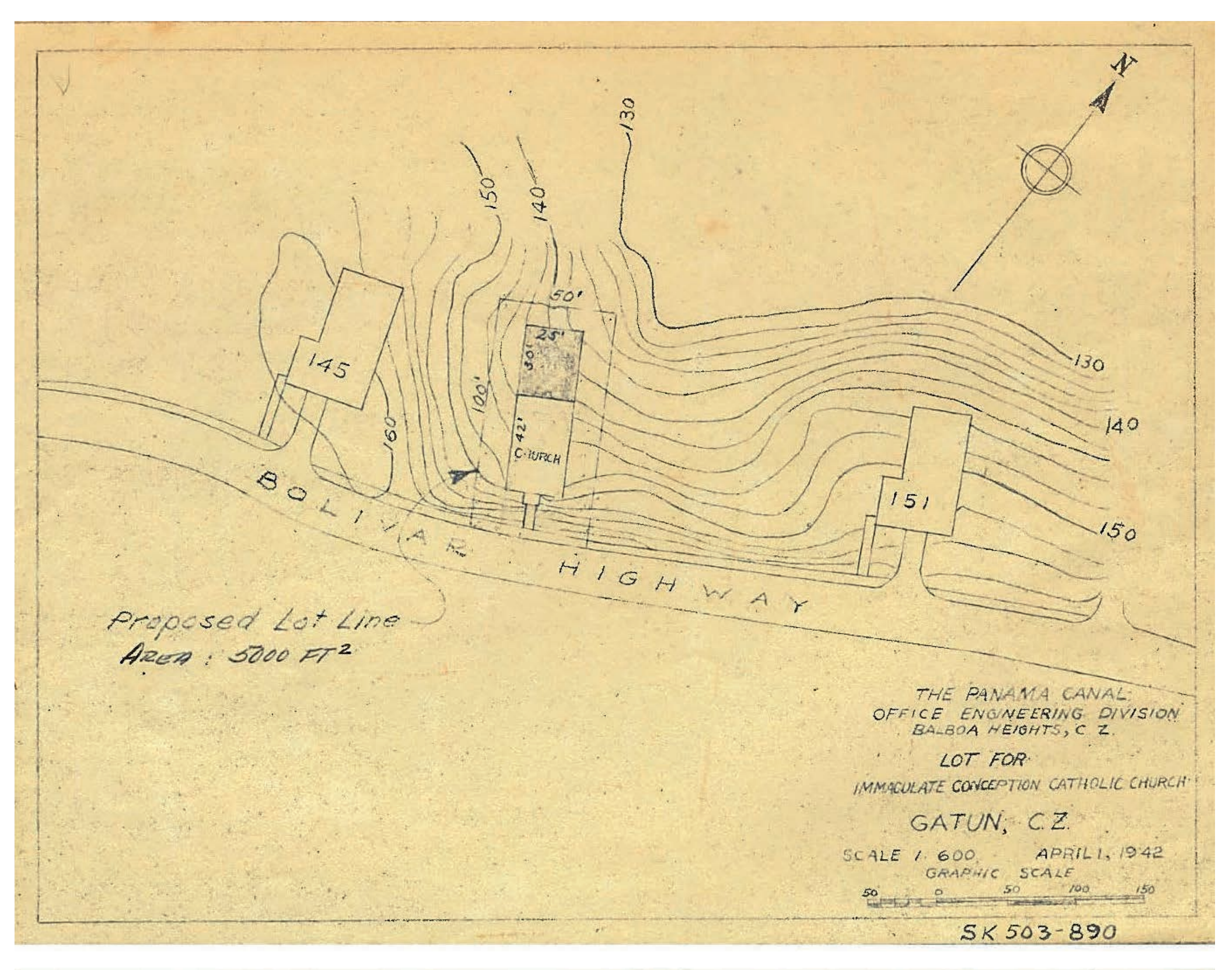
THE PANAMA CANAL,

By E. P. Haw
E. P. HAW,
Chief, Real Estate Section

WITNESS:

THE (CATHOLIC) MISSION,

By John S. Hild, C.M.
JOHN S. HILD, C.M.



SAINT MARY'S MISSION
P. O. Box 2020
BALBOA, CANAL ZONE

May 1, 1943

Dear Mr. Haw:

Your kind letter and the License No. 640 were received this morning.

It was noted in your letter that six copies were inclosed — actually only five copies arrived, which were signed as to your instructions.

With many thanks and kindest wishes, I am

Gratefully yours, John S. Hild, C.M.

Balboa Heights, C. Z.,
May 3, 1943.

The Reverend Edward Sheehan, C. M.,
St. Vincent's Church,
Cristobal, C. Z.

Dear Sir:

In response to your letter of March 29th addressed to the Acting Chief Quartermaster, the Governor has approved a recommendation of the Building Sites Committee that a site 100' x 50', on which the Immaculate Conception Mission of the Roman Catholic Church in Gatun is located, be assigned to that Mission for use as a church site. License No. 640 covering this assignment, issued by the Real Estate Section of The Panama Canal, was signed on May 1, 1943, by Mr. E. P. Haw, representing The Panama Canal, and the Reverend John S. Hild, representing the Immaculate Conception Mission.

Referring to the request in your letter, permission is hereby granted the Immaculate Conception Mission to construct an addition to the existing church building on this site. The final plans and specifications for the addition should be submitted to this office for reference to the Office Engineer, who will issue the required building permit if it is found that the addition will be constructed in accordance with the building regulations, copy enclosed.

Regarding your inquiry concerning the availability of building materials for use in constructing this addition, a list of all materials to be used should be submitted to the Chief Quartermaster, who will inform you as to their availability and as to whether there are any restrictions against their use under present regulations.

Very truly yours,

Enclosure:
Cy. Bldg. Regulations

F. H. WANG
Executive Secretary

Copy to: The Reverend John S. Hild, C.M.,
St. Mary's Mission, Box 2020, Balboa, C.Z.
CC - Gen. M. C. Stayer, Chairman, Building Sites Committee
Mr. R. R. Watson)
Mr. G. W. Green)
Mr. E. Spearman) M e m b e r s
Mr. F. H. Irwin)
Mr. E. P. Haw
Chief, Police & Fire Division
Correspondence Bureau



THE PANAMA CANAL
CANAL ZONE
EXECUTIVE DEPARTMENT



CABLE ADDRESS
"PANCANAL, PANAMA"

Ancon, Canal Zone,
May 3, 1943.

Reverend John S. Hild, C. M.,
St. Mary's Mission,
Box 2020, Balboa, C. Z.

Dear Sir:

There is enclosed herewith your copy of License No. 640 covering the use of a tract of land in Gatun, Canal Zone, for use as a church site for the Immaculate Conception Mission of the Roman Catholic Church.

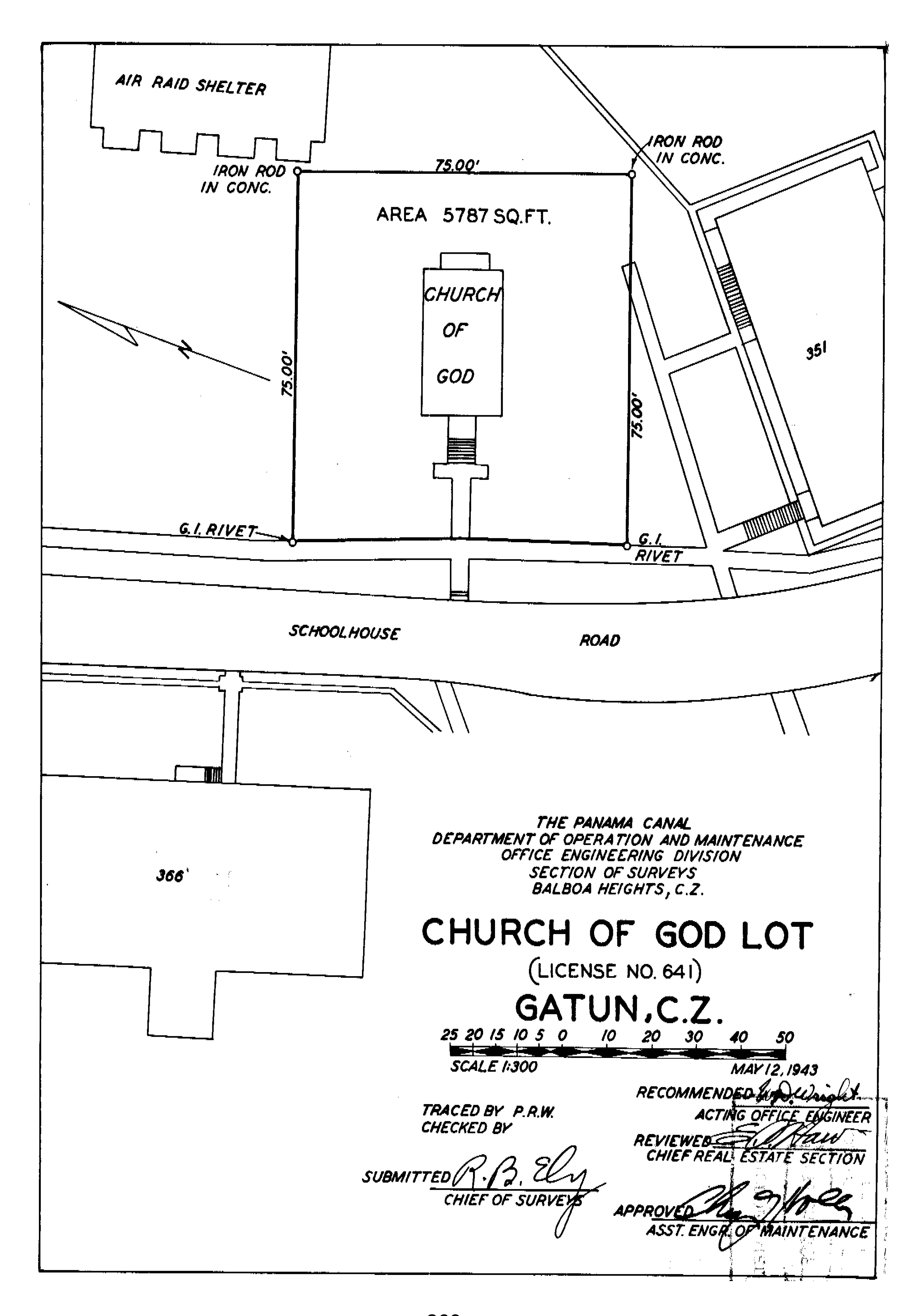
Yours very truly,

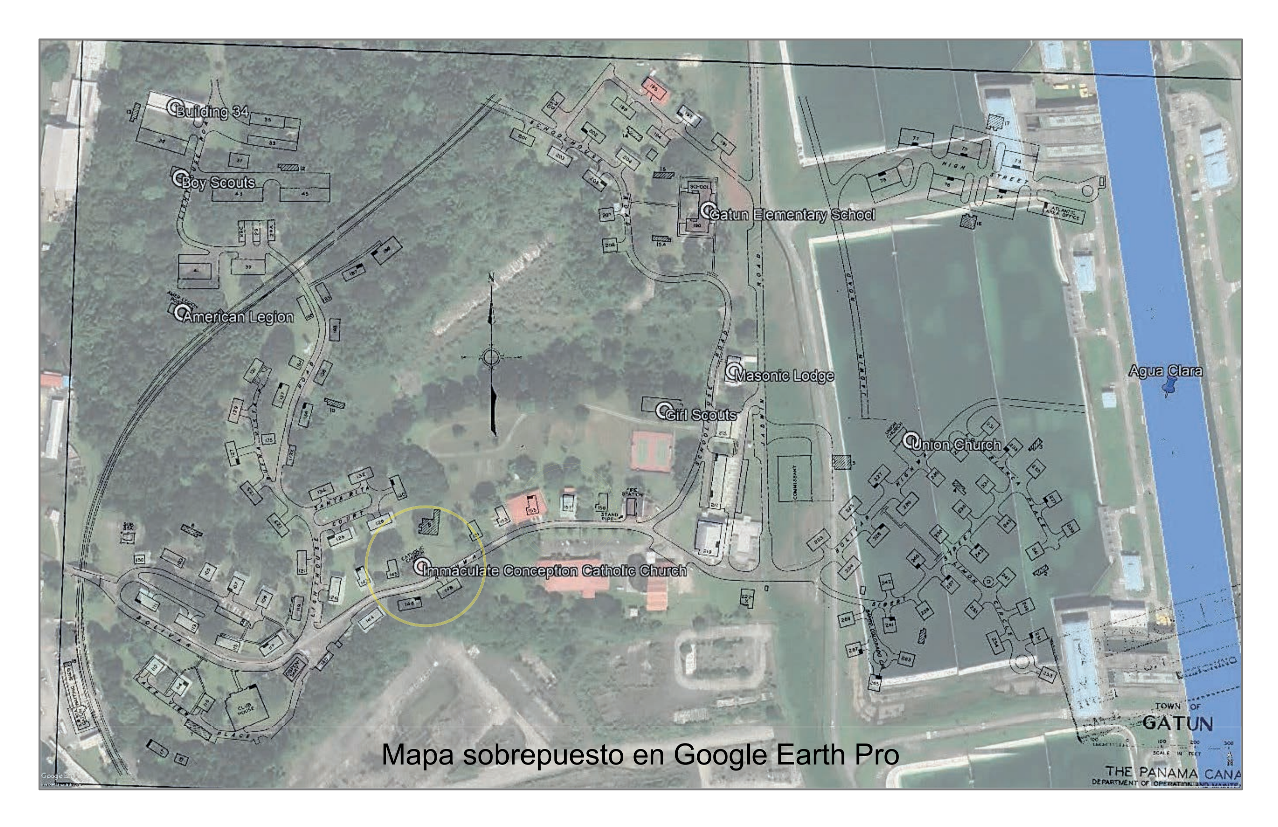
E. P. HAW,
Chief, Real Estate Section.

Enclosure:
License No. 640.

EPH-bne



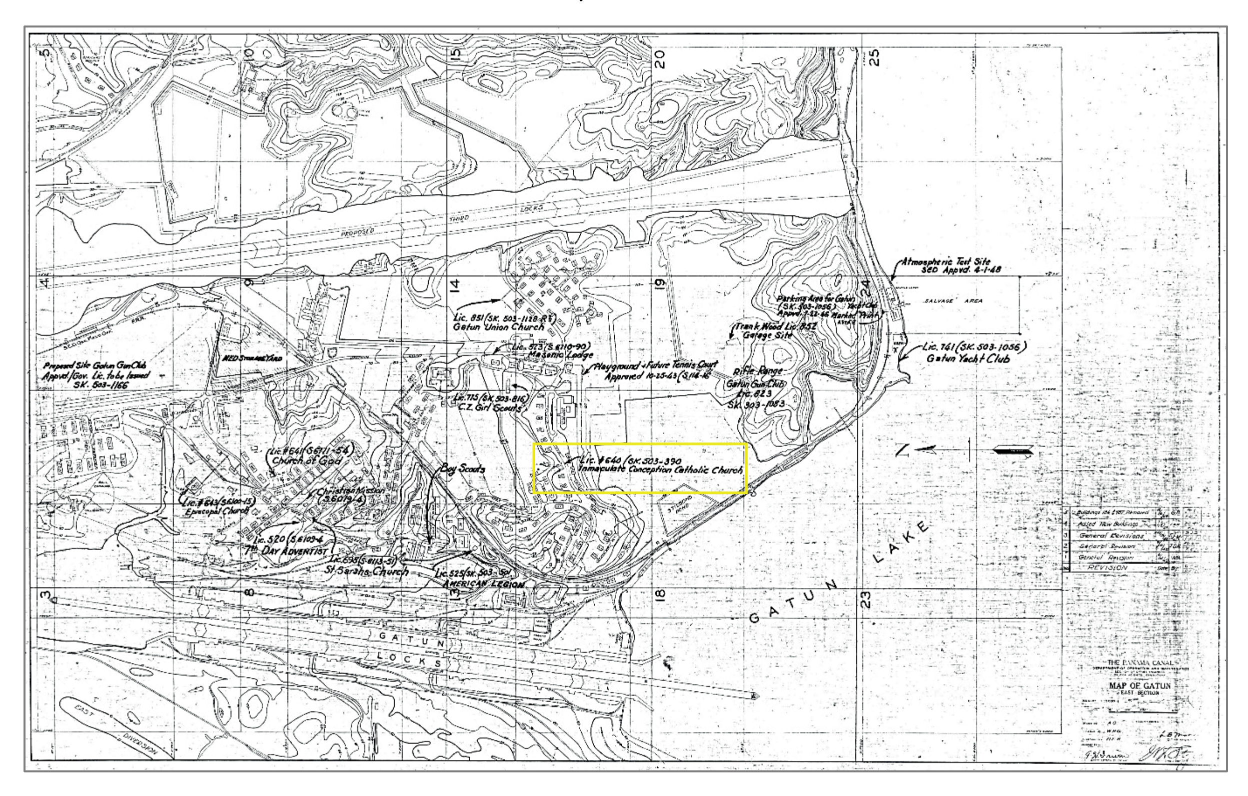

AIR RAID SHELTER
IRON ROD IN CONC.
75.00'
IRON ROD IN CONC.
AREA 5787 SQ.FT.
CHURCH OF GOD
75.00'
75.00'
351
G.I. RIVET
G.I. RIVET
SCHOOLHOUSE ROAD
366
THE PANAMA CANAL
DEPARTMENT OF OPERATION AND MAINTENANCE
OFFICE ENGINEERING DIVISION
SECTION OF SURVEYS
BALBOA HEIGHTS, C.Z.
CHURCH OF GOD LOT
(LICENSE NO. 641)
GATUN, C.Z.
25 20 15 10 5 0 10 20 30 40 50
SCALE 1:300
MAY 12, 1943
RECOMMENDED
ACTING OFFICE ENGINEER
TRACED BY P.R.W.
CHECKED BY
REVIEWED
CHIEF REAL ESTATE SECTION
SUBMITTED R. B. Ely
CHIEF OF SURVEYS
APPROVED
ASST. ENGR. OF MAINTENANCE



April 4, 1943 - Section of Civil Defense - The Panama Canal + 2025 Google Earth.



October 1944 - Map of Gatun - East Section.



Ancon, Canal Zone,
August 5, 1944.

MEMORANDUM TO OFFICE ENGINEER:

1. Refer to attached letter of August 4th from the Rev. Machate, requesting photostats of certain contracts, which the Catholic Church has with the Panama Railroad and The Panama Canal.

2. Attached are copies of the eight (8) documents of which photostats are requested. In the case of six of the licenses (No. 474 being excepted) it is suggested that prints of the respective reference drawings be also supplied. The letter does not make reference to supplying any drawings. However, the documents are incomplete without the mentioned drawings; for which reason they should be included.

3. It is assumed that the attached letter affords sufficient authority for you to charge the cost of this work to the deposit maintained by the St. Vincent Church with the Collector.

4. Please return attached documents to this office. If there is no objection, it is suggested that the completed work be also sent to this office for forwarding to the Rev. Machate as I have some other documents that should accompany them.

E. P. HAW,
Chief, Real Estate Section.

EPH:m'l
Encl: Ltr. to Ch.R.E.Sectn. frm Rev. J.R.Machate,C.M. 8-4-44.
Documents (8).

Ancon, Canal Zone,
August 10, 1944.

Reverend J. R. Machate, C.M.,
St. Vincent's Church,
Cristobal, C. Z.

Dear Father Machate,

There is accompanied herewith photostatic copies, in duplicate, of eight of the documents as requested by you in your letter of the 4th inst., together with prints of the reference drawings relating to each; where drawings are specified. Also, there is included duplicate typed copies of Panama Railroad Company leases to lots Nos. 16 and 17, Block 29 and lots 30 and 31, block 10, of which contracts we chance to have extra blank forms.

I omitted Panama Canal license No. 415, as called for in your letter, as that is the license to the two lots in New Cristobal, which will shortly be superseded by the new lease contract, which is pending execution by Father Hild.

Will you please sign the accompanying three receipt forms and return same to this office.

Very truly yours,

E. P. HAW,
Chief, Real Estate Section.

EPH:m'l
Encls.: Photostat copies-contracts(8),
Receipt forms (3).
Copies of enumrtd. leases(4).

PANAMA CANAL COMPANY
CANAL ZONE
COMMUNITY SERVICES BUREAU
REAL ESTATE UNIT

February 18, 1955
Date of Report

REPORT OF INSPECTION OF PROPERTY
OCCUPIED UNDER LICENSE OR LEASE GRANTED BY
THE PANAMA CANAL COMPANY OR CANAL ZONE GOVERNMENT

1. Licensee or Lessee
Immaculate Conception
Mission of the Catholic Church

2. Type and number of instrument
CZG-Revocable Lic.#640

3. Effective date of instrument
May 1, 1943

4. Rental Rate
None

5. Location of property
Gatun, C.Z.

6. Type of Occupancy
Site for Chapel

7. Date of inspection
February 18, 1955

8. Persons living on premises
None

9. Is occupant complying with terms of instrument? If not, list exceptions.
Yes

10. General Remarks.
None

Emmett Zemer
Realty ~~Inspector~~ Asst.

J.W. Hare
Acting,Chief, Real Estate Unit

cc: Community Services Director

Repro. Plant—57010—53

PANAMA CANAL COMPANY
CANAL ZONE

~~COMMUNITY SERVICES BUREAU~~
~~REAL ESTATE UNIT~~

12/13/57
Date of Report

REPORT OF INSPECTION OF PROPERTY
OCCUPIED UNDER LICENSE OR LEASE GRANTED BY
THE PANAMA CANAL COMPANY OR CANAL ZONE GOVERNMENT

1. Licensee or Lessee
   Immaculate Conception Mission of the Catholic Church

2. Type and number of instrument
   CZG Rev 640

3. Effective date of instrument
   5/1/43

4. Rental Rate
   None

5. Location of property
   Gatun, C Z

6. Type of Occupancy
   Church

7. Date of inspection
   12/11/57

8. Persons living on premises
   none

9. Is occupant complying with terms of instrument? If not, list exceptions.

~~None~~ yes.

10. General Remarks. None

J. W. HARE
Chief, ~~Real Estate Unit~~ License Section

Inspector

INSPECTION REPORT
CANAL ZONE GOVERNMENT LAND LICENSE NO. 640

1. LICENSEE: ST. MARY'S MISSION, IMMACULATE CONCEPTION MISSION

2. TYPE OF OCCUPANCY AND LOCATION: CHURCH, GATUN, C. Z.

3. DATE OF INSPECTION: 3/59

4. PERSONS RESIDING ON PREMISES: none

5. IS OCCUPANT COMPLYING WITH TERMS OF INSTRUMENT? IF NOT, LIST EXCEPTIONS.

Yes.

- no repairs as yet & basement floor - sinking

INSPECTED BY:

J. W. Hare

J. W. HARE
Chief, License Section

CALS

Balboa Heights, C. Z.
May 21, 1969

The Reverend Robert Brandenberger, C.M.
Immaculate Conception Church, Gatun
Box 5004, Margarita, Canal Zone

Dear Father Brandenberger:

The following is quoted from a current Engineering and Construction Director's report concerning Canal Zone Government Land License No. 640 issued to Immaculate Conception Mission, Gatun, C.Z.

"30. BUILDING 147, CHURCH, GATUN:

This building is of frame construction on a concrete foundation and has corrugated iron roofing. The condition of this building is fair. The following is recommended:

Accomplish exterior and roof painting when required to maintain an appearance commensurate with the surrounding housing area."

It is intended that action on this report will result in overall improved community appearance by accomplishment of recommended maintenance work and elimination of dilapidated buildings that are no longer of any practical value.

Please notify this office when work is completed in order that an inspection can be made.

Sincerely yours,

B. I. Everson
Civil Affairs Director

cc:
EC - when work is completed
CALS (3)

Pending Folder

HOLY FAMILY CHURCH
Vincentian Fathers
P. O. Box 5004
Margarita, Canal Zone

June 20, 1969

LL 640

Mr. B. I. Everson
Civil Affairs Director
Balboa Heights, C.Z.

Dear Mr. Everson,

Thank you for your letter of May 21, 1969 advising us that the Church of the Immaculate Conception in Gatun needed to be repainted.

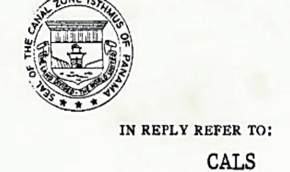
We have done as you directed and the repainting of the building has now been completed.

Sincerely yours,

Charles M. Shanley, C.M.

(Rev.) Charles M. Shanley, C.M.
Assistant

Chief, License Section
gn



CANAL ZONE GOVERNMENT
CANAL ZONE

IN REPLY REFER TO:
CALS

Balboa Heights, C. Z.
January 25, 1974

Immaculate Conception Mission
Box 2020
Balboa, Canal Zone

A copy of the enclosed nondiscrimination amendment will be attached to and become a part of Canal Zone land license No. 640 , Licensee Immaculate Conception Mission .

Please sign the original of this letter and forward to Chief, License Section, Box L, Balboa Heights, Canal Zone. A copy of this letter with amendment attached is for your record.

A self addressed envelope is enclosed for your convenience.

Sincerely yours,

F. A. Cotton
F. A. Cotton
Acting Civil Affairs Director

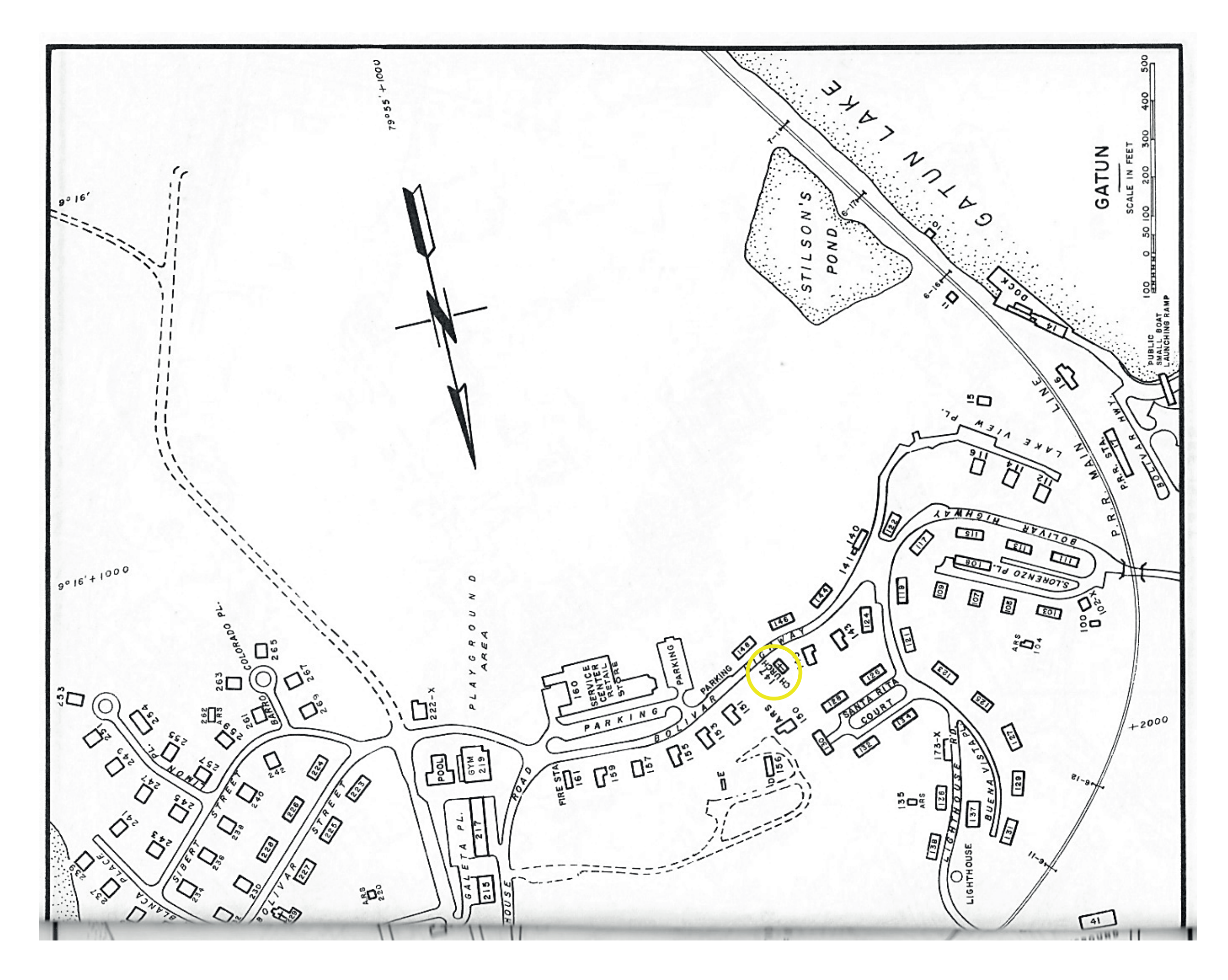
Enclosures

RECEIVED BY Rev. Paul C. Loeven, CM DATE 21 March 1974

KLM/jc (Tel.52-7573)

AMENDMENT

No person shall, on the ground of race, color, or national origin, be excluded from participation in, or be denied the benefits of, or otherwise be subjected to discrimination under any program or activity carried out in connection with use of the licensed area.





640

CANAL ZONE GOVERNMENT
CANAL ZONE

IN REPLY REFER TO:
CALS

Balboa Heights, C. Z.
March 12, 1975

TO ALL CHURCH LICENSEES:

March 4, 1975, a general inspection was made of all Canal Zone Government land licensed areas covering church sites. It was found that the majority of the sites more than meet community esthetic values.

During the inspection however, it was noted that a number of the sites do not have the official name of the church and license number posted on the outside the building, which makes inspections difficult for identification purposes.

It is requested that the proper posting be done with letters and numbers large enough to be legible from the street.

Copies of this letter are being forwarded to all church licensees and if your church building is properly posted, please disregard the above request, if not, your cooperation will be greatly appreciated.

Sincerely yours,

Kenneth L. Manthorne
Kenneth L. Manthorne
Chief, License Section

CONGREGATION OF THE MISSION
Vincentian Fathers (Holy Family Church)
P. O. Box 5085
Cristobal, ~~Canal Zone~~ Republic of Panamá



FECHA 26 de Octubre, 1979

Ing. Tomás Paredes, Director

de la Dirección General de la

Autoridad del Canal de Panamá a.i.

Estimado Director:

Adjunto a la presente me permito hacerle entrega de la solicitud de renovación de licencias para uso de tierras como Representante Legal de esta organización, para que la misma siga operando durante el período de transición.

De usted.

Atentamente,

Representante Legal

Robert Joseph Brandenberger, C M.

REPUBLICA DE PANAMA
Ministerio de Hacienda y Tesoro



PAPEL NOTARIAL

NOTARIA SEGUNDA DEL
CIRCUITO DE COLON

TIMBRE NACIONAL
B/.3.00 TRES BALBOAS B/.3.00



LEY No.
DECRE ... 8 de 1974
LIQUIDACION 167144

3/10

ESCRITURA PUBLICA NUMERO CIENTO VEINTIUNO(121).- - - - - - - - - - - - -

Por la cual el Reverendo Dr. BRUNO MUSARO entrega para su protocolización un documento.- -

Colón, 8 de Febrero de 1983.

En la Ciudad de Colón, cabecera de la Provincia y del Circuito Notarial del mismo nombre, en la República de Panamá, a Ocho(8) de Febrero- - - - - - - de mil novecientos ochenta y tres(1983) ante mí, CARLOS ALBERTO RIVAS GRIMALDO, Notario Público Segundo de Colón, con cédula tres-sesenta y nueve-cuatrocientos ochenta y ocho(3-69-488) comparecio personalmente el Reverendo Doctor BRUNO - MUSARO, varón, mayor de edad, de Nacionalidad Vaticana, vecino de la ciudad de Panamá, de paso por esta ciudad, con Pasaporte Diplomatico extendido en la - ciudad del Vaticano, número Dcuatrocientos noventa y cuatro/ochenta y dos - - (D494/82)y con Tarjeta de Identificacion del Cuerpo Diplomatico extendida por nuestro Ministerio de Relaciones Exteriores número CD-doscientos sesenta y cuatro ochenta y dos(CD-264/82) persona a quien conozco y hablando en su carácter de Encargado de Negocios de la Nunciatura Apostólica en Panamá, me pidió que extendiera esta Escritura y protocolizará como en efecto lo hago un documento peteneciente a la mencionada Nunciatura Apostólica.- Queda hecha la protocolización solicitada y se expedirán las copia que solicite el interesado, advirtiendo que una de ellas debe ser inscrita en el Registro Público, para su entera validez, l la misma que le fue leída en presencia de los testigos instrumentales Santiago Rodriguez, con cédula tres-veinticuatro-ciento setenta ycsiete(3-24-177) y Yolanda Rush, con cédula tres-cincuenta-trescientos veintitres(3-50-323) ambos - mayores de edad, panameños de este vecindario a quienes conozco y son habiles y quien la aprobarón y firman todos por ante mí, El Notario que dá fé.-Esta Escritura lleva el número ciento veintiuno(121).- - - - - - - - - - - - -

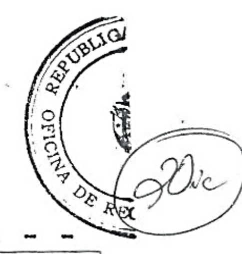
(fdo)Bruno Musaro.-(fdo)Santiago Rodriguez.-(fdo)Yolanda Rush.-(fdo)Carlos A. Rivas G.-Notario Público Segundo de Colón.- - - - - - - - - - - - - - -

EL DOCUMENTO QUE SE PROTOCOLIZA ES DEL TENOR SIGUIENTE:- - - - - - - - - -

Nunciatura Apostólica.-en Panamá.-No. 2101.-EL SUSCRITO Rvdo. Dr. BRUNO MUSARO,

E 80 - 010739





Encargado de Negocios de la Nunciatura Apostólica en Panamá.- - - - - - -

CERTIFICA:- Que el Excelentísimo y Reverendísimo Monseñor CARLOS MARIA ARIZ BOLEA. C.M.F., fue nombrado el 24 de agosto de 1981 por Su Santidad el Papa Juan Pablo II Vicario Apostólico de Darién y contemporáneamente Obispo Titular de "Nigrae Maiores".- - - - - Por lo tanto, representa a la Iglesis Católica en las Provincia de Colón, y Darién y en la Comarca de San Blas.- - - - - -

Dado en la Ciudad de Panamá, a los diecisieteedías del mes de enero de mil novecientos ochenta y tres(1983).-(fdo)Bruno Musaro.- -

Concuerda con su original esta primera copia que expido, firmo y sello el presente hoy en Colón, a ocho(8) días del mes de Febrero de mil novecientos ochenta y tres(1983).- -

CARLOS A. RIVAS G.
Notario Público 2do. del Circuito de Colón
COLÓN, REP. DE PMA.

INCLUIDO 1 PAPEL SELLADO.

OFICINA DE REGISTRO PUBLICO
PANAMA

Presentando este documento a las 1:30:12 Pm
del 9 de Febrero de 19 83 Tomo 156
Folio Asiento 6901 del Diario
por: Pedro Gomez

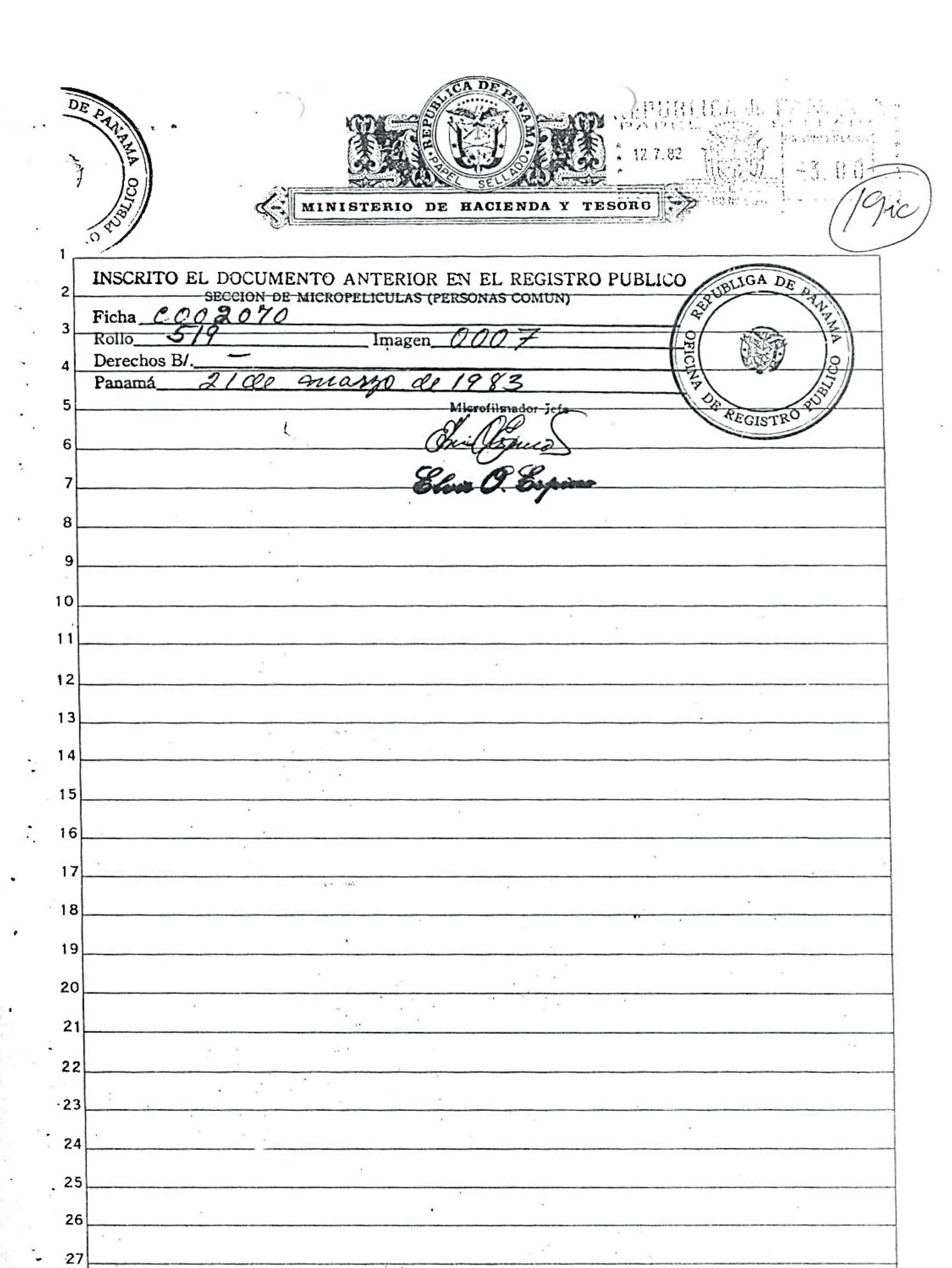
El Jefe del Diario

Derechos: B/.
Liquidación No.
Marquesa E. de Rodríguez

REGISTRESE
JEFE DE LA SECCION
Gonzalo Cornejo Campos

REPUBLICA DE PANAMA
OFICINA DE REGISTRO PUBLICO

FORMULARIOS CONTINUOS, S.A. TEL. 61-9291 ORGULLOSAMENTE PANAMEÑA


REPUBLICA DE PANAMA
PAPEL SELLADO
MINISTERIO DE HACIENDA Y TESORO
12.7.82
3.00
19ic
INSCRITO EL DOCUMENTO ANTERIOR EN EL REGISTRO PUBLICO
SECCION DE MICROPELICULAS (PERSONAS COMUN)
Ficha C002070
Rollo 519
Imagen 0007
Derechos B/. —
Panamá 21 de marzo de 1983
Microfilmador-Jefe
Elvia O. Espino
REPUBLICA DE PANAMA
OFICINA DE REGISTRO PUBLICO

A 82- 052295

METROPOLITAN CURIA
P. O. Box 6386
Panama 5, Panama

Panama, May 30, 1984

Office of Executive Administration
Room 205
Administration Building
Balboa Heights, Republic of Panama

Attention: Ms. Gladys Díaz

Dear Ms. Díaz:

I extend my most cordial hello and hope that you are enjoying good health and success in your work.

This letter is to request a Certificate of Ownership for the property on which the building IMMACULATE CONCEPTION is currently located.

According to License No. 640, use of such was granted for a CHAPEL in an area identified on Panama Canal Drawing No. SK-503-890 dated APRIL 1, 1982; the approximate area is ________ square feet located on ____________ Street in GATUN, Canal Zone.

By virtue of the aforementioned license and the lot described, the following improvements were made; these improvements consist of: CHAPEL

Please call 62-7668 or 62-7400 for any additional information.

Again, thank you for your attention to this matter.

A servant in Christ,

(Stamped Seal:
Metropolitan Curia
of Panama)

(signed)
Marcos Gregorio McGrath, C.S.C.
Archbishop of Panama

CURIA METROPOLITANA
APARTADO 6386
PANAMA 5, PANAMA

Panamá, 30 de Mayo de 1984

OFFICE OF EXECUTIVE
ADMINISTRATION
Room 205
Administration Building
Balboa Heights, Rep. of Panama

ATENCION: Ms. Gladys Díaz

Estimada Ms. Díaz:

Sean para usted mis más cordiales saludos en espera que se encuentre gozando de salud y éxitos en sus funciones.

La presente tiene como objeto solicitar Certificación de Dominio para reconocimiento de la propiedad del actual edificio donde está ubicada la INMACULADA CONCEPCION ____________.

Según Licencia No. 640, se concedió el uso para CAPILLA en un área identificada en el dibujo del Canal de Panamá No. SK-503-890 de 1 de ABRIL de 1982, cuya extensión aproximada es de ____________ pies cuadrados ubicada en Calle ____________ Sector GATUN, Zona del Canal.

En virtud de la Licencia antes mencionada y el terreno descrito se realizaron las siguientes mejoras; estas mejoras consisten en: CAPILLA.

Para cualquier información puede comunicarse a los teléfonos 62-7668 ó 62-7400.

Reiterando nuestro agradecimiento por sus gestiones, soy de usted,

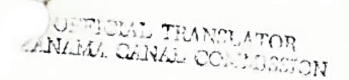
Un servidor en Cristo,

+ Marcos McGrath Csc

+ MARCOS GREGORIO McGRATH, C.S.C.
ARZOBISPO DE PANAMA

CURIA METROPOLITANA DE PANAMA

MGM/gcdeg



METROPOLITAN CURIA
P. O. Box 8386
Panama 5, Panama

Panama, September 27, 1984

Mr. Earl Barber
Records Management Branch
Panama Canal Commission

Dear Mr. Barber:

Following are descriptions for the buildings located in Rainbow City, Margarita, and Gatun for which we have requested that the appropriate certificates of ownership be issued:

RAINBOW CITY

Church: A one-story reinforced concrete building, zinc roof, suspended ceiling, tile floor, ornamental windows, wooden doors and stained-glass windows at building entrance.

MARGARITA

Church: A one-story reinforced concrete building, tile roof, suspended ceiling, tile floor, aluminum-frame windows, glass louvers, with parking lot for 50 automobiles.

PARSONAGE

Two-story reinforced concrete building, zinc roof, tile floors, reinforced concrete and wood staircase, aluminum-frame windows and glass louvers, with parking space for 3 automobiles. Recreation area near the parking lot with 6 cement benches.

GATUN:

Two-story wooden building, zinc roof, suspended ceiling, wooden floors, wood-frame windows with metallic screens, and wooden doors.

Please issue the certificates in the name of the Saint Vincent de Paul Mission.

Thank you for your attention to this matter.

Yours truly,

(signed)
Luis Mario Carrasco
Administrative Director

LMC:gmt

CURIA METROPOLIT[illegible]NA
APARTADO 6386
PANAMA 5, PANAMA

Panamá, 27 de septiembre de 1984

Señor
EARL BARBER
RECORDS MGT.
E. S. D.

Estimado Sr. Barber:

A continuación detallamos las descripciones de los edificios localizados en Arco Iris, Margarita y Gatún de los cuales hemos solicitado las correspondientes certificaciones:

ARCO IRIS:

Iglesia: Edificio de una sola planta de concreto reforzado, techo de Zinc, cieloraso suspendido, piso de mosaicos, ventanas de ornamentales, puertas de madera y vitrales de colores en la entrada.

MARGARITA:

Iglesia: Un edificio de concreto reforzado de una sola planta, techo de teja, cieloraso suspendido, piso de mosaicos, ventanas de marcos de aluminio, paletas de vidrio, con área de estacionamiento para 50 carros.

CASA CURAL:

Edificio de 2 plantas, de concreto reforzado, techo de Zinc, pisos de mosaicos, escalera de cemento armado y madera, ventanas de marcos de aluminio y paletas de vidrio, con área de estacionamiento para 3 carros.
Area de recreo con 6 bancos de cemento cerca del área de estacionamiento.

GATUN:

Edificio de dos plantas de madera, techo de Zinc, cieloraso suspendido, pisos de madera, ventanas de marcos de madera y paneles de tela metálica y puertas de madera.

Igualmente le solicitamos, se sirva expedirnos las certificaciones a nombre de la Misión de San Vicente de Paúl.

Agradeciendo sus atenciones, nos suscribimos;

Atentamente,

Lic. Luis Mario Carrasco
Director Administrativo

CURIA METROPOLITANA DE PANAMA

LMC/gmt

SAINT MARY'S PARISH
P. O. Box 2020
Balboa, Panama

VINCENTIAN FATHERS



Tel. 52-5747

PARROQUIA STA. MARIA
Apartado 2020
Balboa, R. de P.

PADRES VICENTINOS

November 19, 1984

MR. Earle Barber
Office of Records Management
Panama Canal Commission

Dear Mr. Barber:

It has been brought to my attention that the small church in Gatún, formerly Camal Zone, and which bears the title: Immaculate Conception Church, was also registered by the then legal representative of the Vincentian Fathers, Father John Hild, under that title, for purposes of land lease.

Since all the Catholic churches in the Canal Zone belonged to the Vincentian Fathers, for legal purposes The Immaculate Conception Church, Gatun, is the same entity as the Vincentian Fathers.

Yours very simcerely,

Harold Skidmore C.M.

(Rev.) Harold Skidmore, C.M.
Legal Representative of
the Vincentian Fathers

cc: Lic. Luis Carrazco

November 26, 1984

MR. Earle Barber
Office of Records Management
Panama Canal Commission

Dear Mr. Barber:

A continuación le presentamos las descripciones solicitadas de los estacionamientos de los Edificios de las Iglesias de ARCO IRIS, MARGARITAS y GATUN:

1. Para la Iglesia de ARCO IRIS, capacidad de estacionamiento de 15 vehículos.
2. Para la Iglesia de LAS MARGARITAS, debe apuntarse una capacidad de estacionamiento de 50 vehículos.
3. Para la construcción de GATUN, debe apuntarse un área de 3 vehículos.

Atentamente,

C chull

LICDO. LUIS M. CARRASCO
CURIA METROPOLITANA

I, Frank R. Turman Jr., Chief, Administrative Services Division, Agency Records Officer, Panama Canal Commission, and legal custodian of Commission records, hereby

C E R T I F Y :

1. That, according to written authorization number 640, issued by the Panama Canal, an agency of the U.S. Government, on May 1, 1943, the Immaculate Conception Mission of the Roman Catholic Church was authorized to occupy and use a plot of land in the former Canal Zone as described below:

Location: Gatun.

Boundary description: A plot of land located on the northerly side of Bolivar Highway and between quarters numbers 145 and 151 in the town of Gatun; the said plot measuring 100 feet in depth from the inside edge of the sidewalk on the northerly side of the said highway by 50 feet in width, with the center line of the existing church structure forming the longitudinal center line of the lot.

Size of premises: 5,000 square feet as shown on Panama Canal drawing number SK-503-890, dated April 1, 1942, a copy of which is attached hereto and made a part of this certificate.

Purpose: For the construction and maintenance of a chapel for conducting religious services and related activities.

2. That, according to the records of the Panama Canal Commission and its predecessor agencies, the Immaculate Conception Mission of the Roman Catholic Church constructed a building on said plot of land; and, on May 3, 1943, permission was granted to the Immaculate Conception Mission to construct an addition to said building.

Description of improvement (building number 147): A two-story wooden structure on a concrete foundation having a zinc roof, wooden floors and doors, and wood-framed windows with screens.

3. That the building described above was constructed at the expense of the Immaculate Conception Mission of the Roman Catholic Church; and that, from the time of its construction, the maintenance of said building has been at the expense of the aforementioned entity.

4. That, in accordance with the Panama Canal Treaty of 1903 and subsequent agreements, the United States of America, by virtue of and in exercise of the legal powers conferred upon it, recognized ownership rights of the Immaculate Conception Mission of the Roman Catholic Church over the building described in Item 2 of this certificate and, consequently, also recognized the right of the aforementioned entity to alter, remove, or demolish, as well as lease, sell, transfer, or assign or otherwise alienate said building, as inherent to the ownership rights held by the aforementioned entity.

Issued for the interested party at Balboa Heights, in the city of Panama, capital of the Republic of Panama, on the twenty-sixth day of February, nineteen hundred and eighty-five.

Frank R Turman Jr.
Frank R. Turman Jr.
Acting Chief, Administrative Services Division
Acting Agency Records Officer

Página 2 SPILLWAY DEL CANAL DE PANAMA Viernes 18 de Diciembre de 1987

Eventos locales

Viene Santa Claus

Santa Claus, sus duendes, un coro y una banda musical recorrerán las comunidades de Diablo, Los Ríos y Cárdenas a partir de las 6 p.m., la víspera de Navidad. Para mayor información sobre la participación y entrega de regalos, llame al 52-5665.

Comedor Salem

Todavía está a tiempo para enviar su contribución a la campaña de recaudación de fondos que realiza la iglesia Salem para ofrecer una cena navideña a los necesitados que residen en Colón. El comedor de la iglesia ha operado durante los últimos 30 años.

Las donaciones se pueden enviar al Apdo. 176, Paraíso (Ancón), R.P.; al Apdo. 109, Colón, R.P.; o se pueden entregar a cualquier miembro de la Iglesia del Evangelio Unido en Colón, Paraíso y Parque Lefevre. Los cheques deben hacerse a nombre de "United Gospel Church (Soup Kitchen)". Para mayor información, llame al 32-4102 o al 42-4138.

Atención numismáticos

La Asociación Numismática de Panamá invita al público a una exhibición y venta de monedas y estampillas procedentes de todo el mundo, mañana sábado, de 10 a.m. a 7 p.m., y el domingo, de 9 a.m. a 6 p.m.. en el Hotel Marriott. La entrada es gratuita.

Carreras en Balboa

En las carreras de Balboa programadas para el 29 y 30 de enero, atletas de Panamá, escuelas del área canalera y fuerzas armadas de los Estados Unidos competirán en eventos como salto de garrocha y altura, tiro de bala y disco, y carreras de obstáculos, distancia, velocidad y relevos. La competencia de pista y campo atrae a más de 300 atletas anualmente. Los interesados deben llamar a Cleve Oliver al 52-5704.

Trineo de Santa Claus

Santa Claus hará su parada anual en la Estación de Bomberos de Gatún la víspera de Navidad a las 7 p.m., a bordo de su trineo rojo y blanco tirado por un camión. Si quiere que su hijo o hija reciba un regalo de Santa, lleve el regalo, envuelto en papel sin adornos, con el nombre del niño escrito en letras negritas, a la estación a más tardar al mediodía ese día. Para mayor información o para brindarse como voluntario, llame a Bonnie Seeley al 43-5452.



La llave del saber Foto por Arthur Pollack

Mania Nita, jefe del Centro de Recursos Técnicos, recibe la llave del centro recién remodelado de manos del jefe de la División de Servicios Comunales, R. J. Saarinen, a la izquierda, del subdirector de Servicios Generales, René Van Hoorde, y del subadministrador de la Comisión del Canal de Panamá, Lic. Fernando Manfredo Jr., durante la ceremonia de inauguración el 4 de diciembre. El centro ahora está ubicado en el Edificio 38, Balboa.

Gatitos para Navidad

Justo a tiempo para Navidad se puede obtener gatitos gratis en la Clínica Veterinaria de Mindi. Para reservar uno o para mayor información, llame a la clínica al 43-5622.

Usuarios de Commodore

Los usuarios de computadoras Commodore en el sector Atlántico se reúnen a las 7 p.m. el primer lunes de cada mes en el Centro de Adiestramiento del Centro Comunitario de Gatún (Edificio 206). La próxima reunión será el 4 de enero. Para mayor información, llame a Ralph Boggs al 43-5686.

Fiesta en Logia Elks

La Logia Elks 1542 en Margarita celebrará el Año Nuevo con una fiesta semiformal el jueves, 31 de diciembre, a partir de las 7 p.m. Se servirá la cena de 8 a 9, se brindará con champaña a la medianoche y se servirá un desayuno a la 1 a.m. Los boletos cuestan $15 por persona y están a la venta en la logia. Para mayor información, llame al 46-4442.

Fiesta de Año Nuevo en el Club Tarpon

El Club Tarpon, ubicado en la orilla occidental del Canal cerca a la Planta Hidroeléctrica de Gatún, ofrecerá una fiesta de Año Nuevo, el jueves 31 de diciembre a partir de las 9 p.m. El precio del boleto incluye música, un buffet, bar abierto, champaña y desayuno. El traje va desde "jeans" hasta "smoking". El público está invitado. Para mayor información o para adquirir boletos, llame al club al teléfono 43-5316.

Centro Juvenil de Gatún

Auspiciado por el Ramo para el Acondicionamiento Físico del Empleado, el Centro Comunitario Juvenil de Gatún ha programado varios eventos este mes. Los villancicos navideños comenzarán el lunes, 21 de diciembre, a las 7 p.m. El martes, 29 de diciembre, se celebrará una fiesta playera y se confeccionarán esculturas de arena. Si hay interés, el jueves, 31 de diciembre se celebrará una fiesta de Año Nuevo para los jóvenes. Para mayor información, llame a Karen Palumbo, especialista en actividades recreativas, al 43-5353.

Carrera de relevo

Dos equipos de la Comisión del Canal de Panamá participarán en la Carrera Transístmica de Relevo a realizarse el sábado 19 de diciembre. La carrera arranca de Cristóbal a las 6 a.m. y termina al mediodía en el Club de Oficiales de Fuerte Amador. El público queda cordialmente invitado.

Programa de orientación de academias militares

Cadetes de varias academias estarán a mano para hablar sobre sus escuelas a cadetes potenciales el martes 22 de diciembre, al mediodía, en la Oficina LD-1 del edificio ROTC en la escuela secundaria de Balboa. Oficiales de enlace de la Academia de la Fuerza Aérea auspician este evento que está abierto al público.

Iglesia católica de Gatún

El comité de restauración de la Iglesia de la Inmaculada Concepción de Gatún se complace en anunciar que las misas semanales se celebrarán los sábados a las 5 p.m. Ya concluyó el proyecto de restauración de esta iglesia de 50 años y el público queda invitado a los servicios religiosos. La misa del gallo se celebrará el jueves, 24 de diciembre, a las 11:45 p.m. La iglesia está ubicada en la Avenida Bolívar en Gatún. Para mayor información, llame a Tim o Theresa Herring al 43-5344 o Alberto or Nina Cohen al 43-5405.

Premios por Diseño

Los Premios Presidenciales por Diseño, establecidos por el Presidente de los Estados Unidos el 21 de diciembre de 1983, se otorgan cada cuatro años para reconocer los logros de individuos u organizaciones en los siete campos del diseño: arquitectura, diseño de ingeniería, diseño gráfico, diseño de interiores, arquitectura de jardines, diseño industrial o de productos y diseño urbano o conservación histórica.

Para ser elegible, un participante debe ser o haber sido empleado federal con responsabilidad profesional por trabajos de diseño. Los contratistas federales, gobiernos locales y estatales y organizaciones sin fines de lucro que hayan efectuado un trabajo de diseño para el gobierno federal, también son

Arriba: 18 de diciembre de 1987 - *Spillway* del Canal de Panamá - Iglesia de Gatún

Abajo: Martes 15 de diciembre de 1987 - Iglesia de Gatún





Maestre hará de Santa Claus en Navidad

Robert Bruce Thompson, un primer maestre de las Esclusas de Gatún, es prueba palpable de que nunca se es demasiado viejo para aprender un nuevo oficio. Con más de 37 años de servicio en el Canal de Panamá, esta Nochebuena adoptará por primera vez el papel de Santa Claus en el trineo de Navidad del Comité Asesor de Residentes.

Esto significa que Thompson ostentará el nombre de dos figuras históricas. Su orgulloso padre escocés-irlandés le puso el nombre de Robert Bruce, uno de los reyes de Escocia, y el nombre de Santa Claus se deriva de San Nicolás, el Obispo de Myra, Asia Menor, en el siglo cuatro, que también es santo patrono de los niños.

Cuando se le preguntó sobre sus aptitudes para el papel de Santa Claus, Thompson dijo "todos los muchachos creen en Santa Claus, ¿acaso no puedo yo también? Suena interesante y estoy algo emocionado; será una nueva experiencia." A la vez, Thompson enriquece su nuevo trabajo con la experiencia de siete hijos y dos nietos.

A su familia, confiesa Thompson, le da risa su nuevo papel. No saben si podrá decir "Jo, Jo, Jo," de manera convincente. Pero su hija Elizabeth, una graduanda en la escuela secundaria de Cristóbal, tiene intenciones de acompañarlo como uno de los duendes ayudantes en el trineo. Mary, su esposa por 25 años, dice que ella se limitará a aplaudir de las aceras.

Mientras que el trineo pasea por las poblaciones del sector Atlántico, su tarea será fácil: una sonrisa y un saludo amistoso para los niños y sus padres parados en las aceras. La verdadera prueba será como a las 6:30 cuando el trineo haga su parada final en la Estación de Bomberos de Gatún. Allí, más de 100 niños estarán esperando para sentarse en la pierna de Santa y recibir sus regalos de manos del viejito.

Después de esta noche, Thompson de seguro estará listo para retirarse del papel hasta el año entrante. Sin embargo, con todos sus años de servicio, todavía no tiene planes de jubilarse de la Comisión del Canal de Panamá. El sólo sonríe y dice pícaramente, "lo haré, eventualmente".



Foto por Susan K. Stabler

Parece que Robert Thompson se pregunta "Ese soy realmente yo?" al ponerse por primera vez el traje de Santa Claus y mirarse al espejo.

No solo los chiquillos deben portarse bien

Accidentes no toman vacaciones

En esta época del año, los padres les dicen a los niños que Santa Claus no les traerá regalos si se portan mal. Sin embargo, los adultos también deben tener cuidado, en vista de que los peligros aumentan en esta época.

En diciembre ocurren más accidentes que en cualquier otro mes del año. Hay más incendios, más caídas, más accidentes con los juguetes, más envenenamientos y más accidentes de tráfico que en cualquier otra época del año. Ya que las fiestas son sinónimo de Navidad, los accidentes de tránsito relacionados con el alcohol también aumentan drásticamente.

Este año, por qué no hacer doble sus advertencias de Navidad. A los niños, continúe advirtiéndoles sobre su comportamiento. Entonces, cántese usted y cántele a sus amigos esta canción:

Con mi coche viejito, voy camino de Chitré
Con mi coche viejito, voy veloz casi dormido
Si me ven, si me ven, voy camino...Ay lo olvidé!
Si me dan de beber, no me den las llaves

Tuqui, Tuqui, Tuqui, Tuqui, Hic!
Tuqui, Tuqui, Tuqui, Tac, Hic!
Si me ven, si me ven, no me dejen conducir(bis)

Por la Interamericana, voy cantando y zigzagueando
Y en mi casa mis hijos y mi esposa, esperando
Si me dan de beber, no me dejen conducir
Si me dan de beber, no me den las llaves

Tuqui, Tuqui, Tuqui, Tuqui, Hic!
Tuqui, Tuqui, Tuqui, Tac, Hic!
Un buen amigo, es el mejor regalo(bis)

En Gatún misa del gallo será especial

La misa del gallo, hoy 24 de diciembre, será algo especial este año en la Iglesia de la Inmaculada Concepción en Gatún. Ocho familias de la comunidad de Gatún recientemente concluyeron el proyecto de restauración de la iglesia de madera de 50 años. Un entusiasmo reservado marcó el inicio del proyecto en junio. La inspección preliminar de la iglesia reveló comején en toda la madera, cientos de murciélagos en el ático, columnas de cemento deterioradas, alambrado eléctrico dudoso, pintura descascarillada adentro y afuera, el techo oxidado y el desmejoramiento típico de cualquier inmueble abandonado por siete u ocho años. Inicialmente se predijo que el proyecto duraría tres meses a un costo estimado de $5,000 incluyendo mano de obra y materiales. Al celebrarse la primera misa el 8 de diciembre, Fiesta de la Inmaculada Concepción y Día de la Madre, la restauración ya había tomado casi siete meses a un costo de $9,000. El padre Julio Fernández concluyó la misa ese día felicitando a todos los que ayudaron a reconstruir la iglesia. La mayoría de los fondos para el proyecto provinieron de los miembros del comité, otros individuos y organizaciones tanto locales como en los Estados Unidos. El comité solicitó apoyo a través de cartas, publicidad y pasando la voz. También se realizó una fritanga de pescado en el Club de Yates de Gatún y una venta de elefante blanco en la casa de Luz y Ricardo Alvarez, con las cuales se recaudaron fondos exitosamente. Alvarez es superintendente asistente en las Esclusas de Gatún. Otros empleados de la Comisión del Canal de Panamá también participaron. Norman Pederson, capataz general de los edificios y residencias del Ramo de Mantenimiento en el Atlántico y Alberto Cohen, jefe del Ramo de Ingeniería de la División Industrial, encabezaron los trabajos de restauración, aprovechando el talento de varios empleados del Ramo de Mantenimiento. A Harold Melhado, pintor del Ramo de Mantenimiento, se le debe el fino acabado de la iglesia en suaves tonos de blanco y azul. Los electricistas de las Esclusas de Gatún donaron tiempo libre para instalar todo el alambrado eléctrico de la iglesia, asistidos por Lewis Stabler y Timothy Herring, capitanes de remolcador en el sector Atlántico. El comité está formado por la familia Alvarez; Pederson y su esposa, Marixenia; Herring y su esposa, Theresa; Stabler y su esposa Susan, reportera del SPILLWAY en el sector Atlántico; Cohen y su esposa, Digna; Fernando Calvo, ingeniero supervisor de sanidad del sistema de agua, y su esposa, Stella; Ray Shuey, maestre de esclusas, y su esposa, Mary; y Howie Laatz, secretaria de la División Industrial, y su esposo, Gerry. La iglesia de la Inmaculada Concepción en Gatún invita al público a asistir a la misa semanal, los sábados a las 5 p.m., y extiende su invitación para la misa del gallo, esta Nochebuena a las 11:45.

24 - XII -1987 - *Spillway* del Canal de Panamá - En Gatún misa del gallo será especial


15 diciembre 1987

AUTORIDAD DE LA REGIÓN INTEROCEANICA
DIRECCIÓN DE ADMINISTRACIÓN DE BIENES REVERTIDOS
DEPARTAMENTO DE ADMINISTRACIÓN DE BIENES Y TIERRAS
FORMULARIO DE INSPECCION



FECHA 3 /14 /1997
LICENCIA Nº 640
UBICACION Gaton
CORREGIMIENTO ____________
USUARIO Inmaculate Conception missión
EDIFICIO Nº 147

USO ACTUAL DEL BIEN
Iglesia

BREVE DESCRIPCION DEL BIEN
Construccion de madera
techo de zinc

OBSERVACIONES
Administra la C.C.P.
Estaba Cerrada al momento de la Inspección

LINDEROS

NORTE: Iglesia Salomonte
SUR: [illegible]
ESTE: ____________
OESTE: ____________

INSPECTOR: [signature]

15.00

LOTE QUE
OCUPA
LA
IGLESIA
SAN VICENTE
DE PAUL.

30.00

30.00

15.00

ESCALA. 1:250

USUARIO Congregación de San Vicente de Paul LOCALIZACION Vía Bolívar #147 — Tarjeta No. 1 De 1

CLASE ____ TIPO ____

CONDICION FISICA OBSERVADA: Regular ____ SemiRegular ____ Malo ✓ Pésima ____

TIPO Y USO			
Vivienda Unifamiliar			
Vivienda de dos Familias			
Apartamentos sin elevador			
Apartamentos con elevador			
Casas Comunales			
Edificios Públicos			
Oficinas		Depósitos	
Hotel		Almacenes	
Restaurante		Banco	
Teatro		Garages	
Estación-Gasolina		Industrias	
Otros Iglesia			✓

1. CIMIENTOS			
Mampostería		Pilotes	✓

2. PAREDES EXTERIORES			
Bloques de concreto o arcilla			✓
Con repello 10%	✓	Sin repello	
Piedra		Piedra repellada	
Madera 90%	✓	Ladrillo	
Adobe		Otros	

3. ESTRUCTURA DEL TECHO			
Madera	✓	Concreto	
Acero		Otros	

CUBIERTA DEL TECHO			
Compuesto		Aluminio	
Zinc	✓	Teja	
Asbesto		Otros	

4. PORTALES			
Abierto	✓	Cerrado	

5. PISOS			
Cemento 20%	✓	Baldosas cemento	
Baldotex		Congrani	
Madera 80%	✓	Otros	
Cerámica en el baño	Si	No	
Cerámica en la cocina	Si	No	

6. ACABADO INTERIOR			
Ninguno		Cartón	
Madera 80%	✓	Repello 20%	✓
Otro			
Azulejos en baño	Si	No	
Azulejos en cocina	Si	No	

7. PLOMERIA			
Ninguna		Agua solamente	
No. de Servicios Sanitarios		3 artefactos	
		2 artefactos	
No. de artefactos diseminados			

8. ELECTRICIDAD			
Ninguna	110 v.	✓	220 v.

9. REPARTO INTERIOR			
Vivienda Unifamiliar: No. de cuartos			
Apartamentos: No. apts		No. cuartos	
Oficinas: Tipo		Area	

10. ASCENSORES		
Tipo	Número	Pisos
Pasajeros		
Carga		

11. OTRAS MEJORAS				
Mejora	Tipo	Ancho	Largo	Area
Piscina				
Caminos				
Area bajo techo				
Terrazas				

AIRE ACONDICIONADO			
Ductos	Refrig	Area	

INFORMACION SOBRE EDAD			
Fecha de Construcción		Edad	
Edad: Conocida		Estimada	
Adiciones: Edad		Tipo	

FUENTE DE INFORMACION

Registrado Despaigne-Ramírez	Fecha 23-6-80	Aprobado:	
Clasificado por	Fecha		
Calculado Estruc.	Fecha	Jefe de Avalúos	
Calculado Tierra	Fecha		
Revisado por	Fecha	Fecha:	
Revisión Final	Fecha		

EDAD EFECTIVA — Fecha ____ Edad ____

1 Cuadrado = 0.50 Mts

B① 9.28 — 7.60 — A② 3.45 — 7.60 — P① 1.90 — 2.45

CALCULOS DE AREAS DE EDIFICIOS

No. de Pisos	Sección	Ancho	Largo	Area	Area Pisos	Altura en mts
2	A	7.60	3.45			
1	B	7.60	9.28			

AREA TOTAL:

PORTALES

No.	Pisos	Ancho	Largo	Area
1	1	2.45	1.90	

CALCULOS DE VALORES DE TIERRA

Superficie	Valor ideal por M2	F. Frente	F. Fondo	F. Forma	R. Esquina	V. Unit Ajust.	Valor Parcial

VALOR TOTAL DEL TERRENO

CALCULOS DE VALORES DE EDIFICIOS

Art. No.	Area o Cantidad	Costo Unitario	TOTAL

AJUSTES

COSTO DE REEMPLAZO B/

Factor de Conversión

Costo de Reemplazo Ajustado B/

DEPRECIACION Y OBSOLESCENCIA

DEPRECIACION

a. Edad Efectiva Depreciada	%
b. Condición Física Observada	%
c. Depreciación Total (a + b)	%
d. Condición Neta (100-c)	%

OBSOLESCENCIA

e. Sobremejoras	%
f. Desmejoras	%
g. Otros	%
h. Condición Neta (100-e+f+g)	%
i. CONDICION NETA FINAL (dxh)	%

SUMARIO DE VALORES COMPUTADOS

Valor del edificio Principal	B/
Valor de otros Edificios	B/
Valor de Adiciones	B/
VALOR TOTAL DE EDIFICIOS	B/
VALOR TOTAL DE TIERRA	B/
VALOR TOTAL COMPUTADO	B/

Imprenta de La Nación INAC

REPUBLICA DE PANAMA
MINISTERIO DE HACIENDA Y TESORO
DIRECCION GENERAL DE CATASTRO
REGISTRO Y AVALUO DE PROPIEDAD URBANA

LOCALIZACION DE LA PROPIEDAD

Ciudad Colón Prov. de Colón

Calle Vía Bolívar (Número / Nombre)

Urbanización o Corregimiento Gatún

Mapa ____ Manzana ____ Lote ____

INFORMACION DE REGISTRO

Finca ____ Tomo ____ Folio ____

No. Orden del Registro

LIMITACIONES NATURALES DEL TERRENO

INCLINACION O PENDIENTE	Plano -10%		S.Plano 10-30%		Inclin. 30-60%		M.Inclin. +60%	✓		
APROVECHAMIENTO	mas de 75%		entre 50-75%	✓	entre 25-50%		menos 25%			

USO DE LA TIERRA EN LA MANZANA

Residencial	✓	Educacional	
Comercial		Industrial	
Recreo		Otros Usos	

MEJORAS DE LA TIERRA

Aceras	✓	Cordón	✓
Acueducto	✓	Tubería Gas	
Alcantarillado			✓

CALLES

Concreto	✓	Asfalto		Grava	
Tierra		Vereda		Ninguno	

REGISTRO DE PROPIETARIO

Nombre
Cédula ____ Ciudad
Calle ____ (Número / Nombre)
Apartado Postal

TRASPASO DE PROPIETARIO

Nombre
Cédula ____ Ciudad
Calle ____ (Número / Nombre)
Apartado Postal

TRASPASO DE PROPIETARIO

Nombre
Cédula ____ Ciudad
Calle ____ (Número / Nombre)
Apartado Postal

TRASPASO DE PROPIETARIO

Nombre
Cédula ____ Ciudad
Calle ____ (Número / Nombre)
Apartado Postal

REGISTRO DE TRASPASOS

Fecha	Precio Registrado	Precio Confirmado

REGISTRO DE RENTAS

Planta	Número de Unidades	Tipo de Unidades	Renta por Unidad	Renta Total

INFORMACIONES ADICIONALES

ADICIONES

Clase	Edad	Paredes	Techo	Piso	Ancho	Largo	Area	Costo Unitario	Costo Total	Condición Neta	Valor Computado
										TOTAL	

NOV-21-1997 09:50 FROM TO 2288931 P.01

Alexander /

Fax Transmittal Memo

No. of Pages 3 Today's Date 11/21/97 Time 9:54

To Mr. Quinzada From PCC Lands Management

Company ARI Company

Location Location Dept. Charge

Fax # 228-0200 Telephone # 228-8931 Fax # 272-7181 Telephone # 272-7823

Comments

Original Disposition: Destroy Return Call for pickup



PANAMA CANAL COMMISSION

BALBOA
REPUBLIC OF PANAMA

U.S. MAILING ADDRESS
UNIT 2300
APO AA 34011-2300

October 31, 1997

Mr. Arnoldo Cano A.
Interoceanic Region Authority
Building 1214
Amador, Republic of Panama

Dear Mr. Cano:

This is to confirm our recent telephone conversation regarding the Panama Canal Commission's decision to transfer to IRHE billing responsibility for electrical services currently being provided to religious, fraternal and recreational organizations (see enclosed listing), located in the Canal area. As you may recall, this process started in November 1996 when all of the affected organizations were notified of that decision. As you are aware, the billing process for all boatshed activities and certain commercial and recreational endeavors was implemented on January 1997.

We are fast approaching the January 1, 1998, effective date for turning over to IRHE the remaining religious, fraternal and recreational entities. With that in mind, we are prepared to advise them that they must begin the process of establishing an appropriate account with IRHE as soon as possible. I am enclosing a copy of the proposed notification letter for your information.

During our same conversation, I requested your assistance in coordinating with IRHE this impending action in order to facilitate the initiation of the referenced accounts during the month of December. I understand that you will request ARI's Licensing Section to prepare correspondence to IRHE concerning the status of the existing license/concession arrangement between ARI and each organization.

Your assistance and support in obtaining the cooperation of IRHE regarding this electrical billing transfer will be appreciated.

Sincerely,

Gladys Díaz-Saarinen
Supervisor Lands Management

2 Enclosures

cc: AES AER AERL(sf) AERL(af) IMCC
CDS-MLB (n:\arlirhe)

"The Panama Canal—Providing Passage Into The Twenty-First Century"

TELEX: 3034 PCCAMRM PG FACSIMILE: (507) 272-2122 CABLE: PANCANALCO—PANAMA

16c

NONPROFIT ORGANIZATIONS

Religious Organizations, Pacific and Atlantic

1357 St. Luke's Cathedral
2337 Sacred Heart Chapel
650 Balboa Union Church
1361/1814 Seventh Day Adventist Church, Balboa & Cristobal (APN).
1678 Church of God Servicemen's Center, Balboa Heights
5133 Overseas Christian Servicemen's Home
2676/2943 Crossroads Bible Church
2340 United Gospel Church
611 St. Simon's Church
X Our Lady of Good Counsel
904/3197 Margarita Union Church
387-A Bethany Baptist Church
2719/2042 St. Vincent's Church
2915 St. Mary's Episcopal
X Residence for Coco Solo Community Church (Bible House)

1356, 1275, 1745 Episcopal Church Missionary
2541/2846 Church of Nazarene
1241, 3122, 2121 Church of Christ of Latter Day Saints, Balboa, Corozal & Margarita
1757, 1741 Church of Christ, Balboa & Cristobal (APN).
3214 La Boca Baptist Church
2561, 1406, 1504 Jehovah's Witnesses, Diablo Heights & Cristobal (APN)
946A, 1157 Church of God, Paraiso & Rainbow City
1836 St. Joseph's Church
949/5112 Gamboa Union Church
3228 Caribbean Baptist Church
3227 Margarita Baptist
5646 Ebenezer Methodist
X First Isthmian Baptist
1445, 1161 Salvation Army, Balboa & Paraiso

2193, 2538 First Assembly of God
649 St. Mary's Church
1485 St. Mary's School
1275, 1783, 1745, 2119, 2592 Southern Baptist (Foreign Mission Board)
1849, 1807, 2923 Redeemer Lutheran Church, Balboa & Margarita
1694, 2374 First Baptist Church, Balboa Heights & Paraiso
1516, 1184 Foursquare Gospel Church, Diablo Hts. & Rainbow City
1356 St. Alban's Episcopal
2315 Methodist Church, Paraiso
1594, 1721 Chagres River Baptist
640 Immaculate Conception
X Holy Family Church
1108 St. Margaret's Episcopal
1742 Gatun Church of Christ

Recreational Organizations and Clubs, Pacific and Atlantic

622-A Balboa Gun Club
639 Gamboa Resident's Advisory Committee
816-B Club Marina Chagres
5680 Theater Guild
913 Miraflores Hunt Club
X Panama Audubon Society
5062 Alcoholics Anonymous
1412, 1794 Gatun Saddle Club
1422, 1423 Panama Canal Tarpon Club
2644, 722 Cristobal Gun Club
5462 Lighthouse Hobby Club

Fraternal Organizations, Pacific and Atlantic

461, 789 Scottish Rite Temple
1987 Abou Saad Temple
2828, 2829, 2830 Elks Lodge BPOE 1542, Margarita

57 ONG's
17
40





Panamá, 10 de diciembre de 1997
Nota N°ARI/DABR 740-97

Sra. Lizabeth de Sucre
Administradora del IRHE
Agencia de Balboa
E. S. M.

Estimada Señora:

La Comisión del Canal de Panamá nos ha informado que a partir del 1 de enero del próximo año, el servicio público de suministro de electricidad a varios usuarios de licencias localizadas en las áreas revertidas de Panamá y Colón, cuyo listado adjuntamos, será transferido al Instituto de Recursos Hidráulicos y Electrificación (I.R.H.E).

En ese sentido la oficina de Administración de Tierras de la Comisión del Canal de Panamá y nuestro despacho, le está informado a cada usuario afectado sobre la medida arriba señalada, a efecto de que procedan a contratar el suministro del servicio de electricidad con el I.R.H.E.

Atentamente,

Ing. Arnoldo Cano
Director de Administración
de Bienes Revertidos

Adj.: lo indicado

AC/JJQ

I.R.H.E.
AGENCIA BALBOA
Recibido: por:
Fecha: 16-12-97
Hora: 10:00 A.M.

Autoridad de la Región Interoceánica
Amador, Edificio #1112 • Apartado No. 2097 • Balboa, Ancón, República de Panamá • Tels. 228-0200 / 228-7211 • Fax 228-8937 / 228-6782 • E-mail: ari@ns.sinfo.net





Panamá, 11 de diciembre de 1997

Señor(es):
Inmaculate Conception Mission
Ciudad

Respetado Señor:

La Comisión del Canal de Panamá nos ha informado que a partir del 1 de enero del próximo año, el servicio público de suministro de electricidad, será transferido al Instituto de Recursos Hidráulicos y Electrificación (I.R.H.E.). De acuerdo a nuestros archivos y al listado remitido por la Comisión, usted es usuario de la licencia N° 640 , localizada en el sector de Gatún.

Entendemos que la oficina de Administración de Tierras de la Comisión del Canal de Panamá, le ha informado sobre la medida arriba señalada, en consecuencia hacemos de su conocimiento que debe proceder a solicitar formalmente a la Dirección de Administración de Bienes Revertidos de la Autoridad de la Región Interoceánica, edificio N° 1111 de Amador, con el Ing. Alexis Ho, la autorización para contratar el servicio de electricidad con el I.R.H.E., agencia que será debidamente notificada de esta medida por nuestra institución.

Las oficinas del I.R.H.E. están localizadas en el edificio N° 726-A de Balboa, contiguo al Banco Nacional de Panamá.

Atentamente,

Walter Myers

Ing. Walter Myers III
Jefe del Departamento de
Instalaciones y Tierras

Recibió
P. Afolner.
Dic 18 /97

NOTA: Esta licencia se localiza en una comunidad del área revertida en la provincia de Colón, por lo tanto favor dirigirse a la agencia del I.R.H.E. en esa provincia, que se ubica en Calle Segunda, entre Meléndez y Central.

Autoridad de la Región Interoceánica
Amador, Edificio #1112 • Apartado No. 2097 • Balboa, Ancón, República de Panamá • Tels. 228-0200 / 228-7211 • Fax 228-8937 / 228-6782 • E-mail: ari@ns.sinfo.net

2:45





Panamá, 22 de diciembre de 1997.

Inmaculate Conception Mission
Sector de Gatún, Lic. 640

Respetados Señores:

En atención a recomendación de la Junta Directiva de la Autoridad de la Región Interoceánica y de acuerdo a los parámetros aprobados por esta corporación para la fijación de cánones por el uso de los terrenos propiedad del Estado en las áreas revertidas, la Administración General de esta entidad procederá a revisar el canon establecido para las licencias existentes en las área revertidas, que figuran a nombre de organizaciones de carácter religioso.

Para tal efecto el concepto de iglesia habrá de entenderse no sólo como la estructura o edificación que alberga al templo dedicado a determinado culto religioso, sino que también comprenderá aquellos otros bienes como los terrenos o edificios específicamente utilizados para actividades complementarias a los fines de la organización religiosa, tales como las viviendas para uso de los sacerdotes o de los pastores de la organización y los miembros de su familia, la casa cural u oficinas administrativas, los salones de reuniones de enseñanzas bíblicas o similares y a otras actividades religiosas relacionadas. No incluye bienes dedicados a actividades comerciales.

Como consecuencia de esta interpretación, se concluye que el ordenamiento de las licencias a iglesias, se efectuará a título gratuito, es decir, sin pagar canon por el uso del bien que ocupan.

La Administración General de la Autoridad de la Región Interoceánica expedirá y notificará el documento legal que formalice el uso del bien revertido, teniendo presente el concepto antes expuesto.

Entregada: 3:45 pm

Atentamente,

Ing. Arnoldo Cano
Director de Administración de
Bienes Revertidos

c.c. Dirección de Asesoría Legal

Autoridad de la Región Interoceánica
Amador, Edificio #1112 • Apartado No. 2097 • Balboa, Ancón, República de Panamá • Tels. 228-0200 / 228-7211 • Fax 228-8937 / 228-6782 • E-mail: ari@ns.sinfo.net

LA DIRECCION GENERAL DEL REGISTRO PUBLICO
.983 DEL 10 DE MARZO DE 19)- REPUBLICA DE PANAMA
MAGS

C E R T I F

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QUE EN LA FICHA C-2070 ROLLO 519 IMAGEN 0 SECCION DE MICROPELICULAS MERCANTIL -COMUN- CONSTA INSCRITA Y VIGENTE LA DIOCESIS DE COLON Y SAN BLAS, DESDE EL 21 DE MARZO DE 1983.----SEGUN CONSTA EN LA ESCRITURA PUBLICA 121 DEL 08 DE FEBRERO DE 1983 DE LA NOTARIA SEGUNDA DEL CIRCUITO DE COLON.----

MINISTERIO DE GOBIERNO Y JUSTICIA
DIRECCION GENERAL DEL REGISTRO PUBLICO

022ic

QUE MEDIANTE ESCRITURA PUBLICA 252 DEL 01 DE JUNIO DE 1992 DE LA NOTARIA SEGUNDA DEL CIRCUITO DE COLON E INSCRITA EN LA FICHA C-2070 ROLLO 2232 IMAGEN 29 SECCION DE MICROPELICULAS MERCANTIL -COMUN- DESDE EL 06 DE AGOSTO DE 1992, LA NUNCIATURA APOSTOLICA EN PANAMA, Y EL NUNCIO APOSTOLICO EN PANAMA MONSEÑOR OSVALDO PADILLA CERTIFICAN QUE- EL EXCELENTISIMO Y REVERENDISIMO MONSEÑOR CARLOS MARIA ARIZ BOLEA, CMF, FUE NOMBRADO OBISPO DE LA DIOCESIS MISIONERA DE COLON Y SAN BLAS POR SU SANTIDAD EL PAPA JUAN PABLO II, EL 15 DE DICIEMBRE DE 1988, PO LO TANTO, MONESÑOR ARIZ REPRESENTA A LA IGLESIA CATOLICA EN LA PROVINCIA DE COLON, Y EN LA COMARCA DE SAN BLAS.--
.--

EXPEDIDO EN PANAMA, EL VEINTICUATRO DE MARZO DE MIL NOVECIENTOS NOVENTA Y OCHO, A LAS 02:35:30.0 P.M.

PRISCILLA DE GOMEZ
CERTIFICADOR

MAGS

REPUBLICA DE PANAMA
OFICINA DE REGISTRO PUBLICO



AUTORIDAD DE LA REGION INTEROCEANICA

3610

RESOLUCION ADMINISTRATIVA N° 359-98-6
(De 1 de julio de 1998)

"Por medio de la cual el Administrador General asigna a INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH, a título gratuito, por el término de dieciocho (18) meses prorrogables, el uso de un área de terreno de quinientos noventa y ocho metros cuadrados con cincuenta decímetros cuadrados (598.50 m^2) ubicada en Gatún, corregimiento de Cristóbal, distrito y provincia de Colón.

El ADMINISTRADOR GENERAL
en uso de sus facultades legales

CONSIDERANDO:

Que el Artículo 3 de la Ley 5 de 25 de febrero de 1993, modificada por la Ley 7 de 7 de marzo de 1995, establece que la Autoridad de la Región Interoceánica, ejerce en forma privativa la custodia, aprovechamiento y administración de los bienes revertidos, de modo tal que se obtenga el óptimo aprovechamiento y el máximo beneficio para toda la República.

Que el gobierno de la antigua Zona del Canal, en fecha 1 de mayo de 1943, le extendió a nombre de INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH la licencia No.640, para el uso de un área de terreno de quinientos noventa y ocho metros cuadrados con cincuenta decímetros cuadrados (598.50 m^2), para ser utilizado en actividades religiosas y construir las mejoras necesarias para dicha actividad.

Que de conformidad al Artículo IX del Tratado del Canal de Panamá, la República de Panamá se comprometió a permitirle a las personas naturales o jurídicas que se dedicaren a actividades no lucrativas la continuación de sus actividades en los sitios que ocupaban bajo las mismas condiciones existentes al entrar en vigor dicho tratado.

Que la Junta Directiva de la Autoridad de la Región Interoceánica, mediante Resolución N° 064-01-96 del 31 de julio de 1996, aprobó los parámetros para el establecimiento de los cánones de concesión, permisos de uso temporal de edificios, instalaciones y terrenos en las áreas revertidas, dentro de los cuales se incluyen a los templos y organizaciones dedicadas al culto religioso.

Que la Autoridad de la Región Interoceánica, con la finalidad de establecer un ordenamiento de las licencias otorgadas a organizaciones dedicadas al culto religioso, ha considerado que las asignaciones de uso sobre bienes revertidos, sean a título

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gratuito, quedando entendido que tales asignaciones comprenden tanto las edificaciones dedicadas al culto propiamente tal, así como los demás bienes utilizados para actividades complementarias y análogas de tipo religioso, tales como vivienda de los pastores y su familia, casa cural, oficinas administrativas, salón de enseñanza bíblica, excluyéndose del concepto religioso las actividades que impliquen el ejercicio de alguna actividad comercial.

RESUELVE :

PRIMERO: Asignar a la INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH, a título gratuito, por el término de dieciocho (18) meses prorrogables, el uso de un área de terreno de quinientos noventa y ocho metros cuadrados (598.50 m^2) localizada en Gatún, corregimiento de Cristóbal, distrito y provincia de Colón.

SEGUNDO: La asignación de uso a que se refiere el punto anterior, se hará sujeta a las siguientes condiciones:

1. El bien asignado será utilizado exclusivamente para el ejercicio de actividades netamente religiosas.

2. La INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH será responsable por la protección, rehabilitación, mantenimiento y aseo del bien cuyo uso se le asigna, así como de las áreas verdes adyacentes al mismo.

3. La INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH será responsable del pago de la conexión y los servicios de energía eléctrica, suministro de agua potable y recolección de basura, así como el pago de cualquier servicio público que utilice en los bienes asignados.

4. La INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH acepta que correrá por su cuenta la adecuación de las instalaciones existentes de agua y electricidad a un sistema individual, de acuerdo a las normas del Instituto de Acueductos y Alcantarillados Nacionales (IDAAN) y las normas del Instituto de Recursos Hidráulicos y Electrificación (IRHE), lo cual hará dentro del término de noventa (90) días calendarios contados a partir de la fecha de la presente resolución.

5. La INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH acepta recibir los bienes asignados en el estado físico en que se encuentran y podrá hacerle las mejoras autorizadas, sin que ello conlleve ningún costo para la Autoridad de la Región

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Interoceánica. Cualquier mejora a los bienes asignados que realice la INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH deberá ser autorizada previamente por la Autoridad de la Región Interoceánica, y deberá mantener el diseño de la fachada existente y preservar suficientes áreas verdes y de estacionamientos, de manera que el proyecto de mejora armonice con el ecosistema que lo rodea y lo protege.

6. La INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH comunicará inmediatamente a la Autoridad de la Región Interoceánica cualquier acontecimiento o hecho que implique fuerza mayor o caso fortuito que afecte o pueda afectar el bien que se le ha asignado.

7. La INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH no podrá arrendar todo o parte del bien asignado, ni permitir su ocupación por cualquier persona natural o jurídica; así como tampoco podrá traspasar, transferir o ceder bajo ningún título el bien asignado, o ceder derechos y obligaciones que emanen de la asignación sin autorización escrita de la Autoridad de la Región Interoceánica.

8. La INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH permitirá a los funcionarios de la Autoridad de la Región Interoceánica realizar inspecciones al bien asignado, con la finalidad de verificar si se le está dando el uso convenido. Cualquier uso indebido o distinto del bien le será notificado al beneficiario del mismo para que lo corrija de inmediato.

TERCERO: El bien a que se refiere el Resuelto Primero es propiedad de la Nación, asignado en administración a la Autoridad de la Región Interoceánica; en consecuencia, la INMACULATE CONCEPTION MISSION OF THE ROMAN CATHOLIC CHURCH no podrá inscribir en el Registro Público el bien cuyo uso se autoriza, ni las mejoras existentes o que sobre el mismo se construyan.

CUARTO: Esta resolución quedará resuelta de pleno derecho, en caso de incumplimiento de cualesquiera de las normas aquí estipuladas.

QUINTO: La Autoridad de la Región Interoceánica se compromete a solicitar la autorización correspondiente para perfeccionar esta asignación en base a lo establecido en la Ley.

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Página N° 4
Resolución Administrativa N° 389-98-G

SEXTO: Esta resolución comenzará a regir a partir de su firma.

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NOTIFIQUESE Y CUMPLASE,

Dada en la ciudad de Panamá, a los tres (3) días del mes de julio de mil novecientos noventa y ocho (1998).

N. Ardito Barletta
NICOLAS ARDITO BARLETTA
Administrador General

Acepto la asignación y sus obligaciones

Representante Legal de INMACULATE CONCEPTION
MISSION OF THE ROMAN CATHOLIC CHURCH

AUTORIDAD DE LA REGION INTEROCEANICA
(A. R. I.)

En Panamá, a los 14 días del mes de octubre de mil novecientos noventa y ocho a las 3:15 de la tarde, Notificó a el Carlos María Ariz B. la Resolución que antecede.

Cód. N° [illegible]

REPUBLICA DE PANAMA

AUTORIDAD DEL CANAL DE PANAMA

Solicitud de Licencias para Uso de Tierras

Autoridad del Canal de Panamá — Oficina Regional de Colón

I. DATOS GENERALES:

1. Solicitante:

Congregación de San Vicente de Paul (Immaculate Conception Church--Gatun)
(Nombre del Solicitante) (Cédula N°)

Bolivar Highway — (Calle o Avenida)
147 — (N° de Edificio y/o Oficina)

Colón — (Provincia)
Colón — (Distrito)

5085 Cristobal, R. P. — (Apdo. Postal - Zona)
43-2848 — (Teléfono-s)

2. Representante Legal:

Robert Joseph Brandenberger, C. M. — (Nombre)
P.E. 4680 — (Cédula N°)
(S. S. N°)

Avenida Espave 8318 Margarita — (Dirección)
43-2848 — (Tel. Res.)
43-2848 — (Tel. Ofic.)

5085 Cristobal, R. P. — (Apdo. Postal - Zona)

----------------------- — (N° de Licencia Comercial)
--------------- — (Clase)
(Fecha)

---------------------- — (N° de R. U. C.)
-------------- — (N° de Registro Patronal)

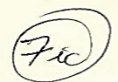
3. Referencias Personales: (Para personas naturales

a. Mons. Jesús Serrano P. C.M.F. — (Nombre)
Calle 5 Colón (Catedral) — (Dirección)

Catedral Colón — (Lugar de Trabajo)
47-1345 — (Tel. Ofc.)
47-1266 — (Tel. Res.)

b. Louis Anderson — (Nombre)
Calle Escobal 78B — (Dirección)

Tagaropulos--Avenida Federico Boyd — (Lugar de Trabajo)
45-0586 — (Tel. Ofc.)
47-0964 — (Tel. Res.)



c. Luis E. Wong — Calle 2 #376A
(Nombre) (Dirección)

Hospital Coco Solo — 43-2645 — 47-0705
(Lugar de Trabajo) (Tel. Ofc.) (Tel. Res.)

4. Referencias Comerciales: (Para personas jurídicas)

a. Chase Manhattan Bank, Colón (Gerente: Handel I. Lee)
(Razón Social)
Aptdo. 836 Colón, R. P. — 47-1900
(Dirección) (Teléfonos)

b. Almacen Surany (Gerente: Elida Lau)
(Razón Social)
Avenida del Frente 10.044 Colón — 47-0333
(Dirección) (Teléfonos)

c. Industria Licorera Calonge, S. Z. (Carmen Calonge S.)
(Razón Social)
Avenida Meléndez 14.109 Colón — 45-0625
(Dirección) (Teléfonos)

II. NECESIDADES DEL PETICIONARIO EN EL AREA SOLICITADA:

1. Lugar de Ubicación: Bolivar Highway #147 Gatun
2. Uso Propuesto: Actividades Religiosas
3. Superficie Solicitada:

Area cerrada: 97.55 M^2
Area abierta: 366.96 M^2
Area estacionamiento: ------ M^2
Total: 464.51 M^2

4. Otras facilidades:

Líneas telefónicas: ——
Servicios Sanitarios: 0
Servicios eléctricos (110 v.) Sí
(220 v.) Sí
Trifásico No

(6ic)

III. TIPO DE LICENCIA:

Comerciales	/__/	Recreo marino	/__/
No comerciales	/X/	Reparación de botes	/__/
Tanque de Combustible	/__/	Servicios Públicos	/__/
Agrícola	/__/	Local en Edificio	/__/

Instalaciones Militares /__/

IV. OBSERVACIONES La Iglesia es propiedad de nosotros.
Está ubicada en Gatun, Colón, Bolivar Highway #147

Congregación de San Vicente de Paul
(Immaculate Conception Church)
(Nombre de la Empresa)

(firma Responsable)
Robert Joseph Brandenberger, C. M.
Cédula N° P.E. 4680

PARA USO DE LA SECCION DE LICENCIAS

Documentación:
/__/ Copia de la Razón Social
/__/ Copia de la Cédula o Identificación
/__/ Copia de la Licencia Comercial
/__/ Copia del Registro Patronal del Seguro Social

Recibido por:____________ (Nombre) ; Fecha____________

____
(Cargo)



DIÓCESIS DE COLÓN-KUNA YALA

Calle 5ª · Ave. Herrera · Apartado 2419 · Colón (República de Panamá)
Telf: 441-8466 · 441-1931 · Fax: 441-8805 · E-Mail: obispoco@sinfo.net

27ic

Colón, 28 de marzo 2001

Licenciado
Ralph P. Ender
Director Regional de Colón

Apreciado Lcdo. Ender :

Reciba un cordial saludo y que la Virgen lo acompañe en sus funciones laborales.

De acuerdo a la conversación sostenida con usted y la revisión de los documentos relacionados con las capillas ubicadas en áreas revertidas, le detallamos el status de cada una:

1. IGLESIA SAGRADA FAMILIA en Margarita.
   Edificios No.8321, Iglesia. 8318, Residencia. 8316, Sala Social.

   En carta recibida de la ARI con fecha del 22 de diciembre de 1997, quedaron en darnos el documento legal que formaliza el uso del bien revertido y a la fecha no lo hemos recibido.
   Esta Iglesia se le debe cambiar el nombre de CONGREGATION OF THE MISIÓN , VICENTINA FATHER a "IGLESIA SAGRADA FAMILIA".

2. IGLESIA DE ARCO IRIS. RESOLUCIÓN ADMINISTRATIVA No.389-98-11.

   Se debe cambiar el nombre de THE CONGREGATION OF THE MISIÓN, VICENTINA FATHER, por "IGLESIA SAN VICENTE DE PAÚL".

3. IGLESIA INMACULADA CONCEPCIÓN en Gatún. RESOLUCIÓN No.389-98-6
   Igual que Margarita y Arco Iris se debe cambiar el nombre ya que dice INMACULATE CONCEPTION MISIÓN OF THE ROMAN CATRHOLIC CHUCH y debe ser INMACULADA CONCEPCIÓN.

4. IGLESIA DE SHERMAN.
   Legalizar su condición actual.

Agradecido de sus atenciones, quedo de usted.

+ Carlos Maria Ariz
Obispo de Colón-Kuna Yala

ARI

Autoridad de la Región Interoceánica
Dirección Regional de Colón

MEMORÁNDUM
DRC-132-2001

Tel.: 473-0600 Fax: 473-0590

PARA : **ING. ALFREDO ARIAS**
Administrador General

DE : **RALPH ENDER**
Director Regional

ASUNTO : **NOTA RECIBIDA POR LA DIOCESIS DE COLÓN - KUNA YALA**

FECHA : 30 de marzo de 2001

Adjuntamos nota que hemos recibido de la Diócesis de Colón - Kuna Yala, fechada 28 marzo de 2001, sobre el status de las capillas ubicadas en áreas revertidas, la cual se explica por sí sola.

En referente al Punto No.1, adjuntamos nota enviada por la ARI, fechada 22 diciembre de 1997, donde en su último párrafo comunican que se expedirá y notificará el documento legal que formalice el uso del bien, y hasta la fecha no se ha cumplido.

Al mismo tiempo nuestra opinión es que las Resoluciones Administrativas correspondientes que se hagan, debe ser a nombre de la Diócesis de Colón – Kuna Yala ya que las mismas están bajo su administración.

Adj: Lo indicado

c.c Archivo

ARI
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DIRECCION ADM. DE BIENES REVERTIDOS
Fecha Recibido: 9/4/01
Hora: 4:00 p.m.
Recibido por: Mary

ARI

AUTORIDAD DE LA REGIÓN INTEROCEÁNICA

ASIGNACIONES Y LICENCIAS DIOCESIS DE COLON Y KUNA YALA

Panamá, de abril de 2001.

ASIGNACION CAPILLA EN SHERMAN EDIFICIO Nº 152

La Diócesis de Colón - Kuna Yala por intermedio del Obispo, Carlos María Ariz, solicitó en nota fechada el 11 de agosto de 1998, la asignación de la única instalación o capilla (edificio Nº 152) para servicios religiosos ubicada en Fuerte Sherman, con el propósito de destinarla como Iglesia Católica y así impartir las enseñanzas religiosas. Esta asignación se autorizó a través de la Junta Directiva por Resolución Nº 242-98 de 29 de diciembre de 1998.

Esta asignación no ha sido perfeccionada debido a que aún no se ha definido en su totalidad el trato que se le dará al área del Fuerte Sherman, y en el mismo no existe ninguna área destinada para residencia. La intención de la iglesia es prestar sus servicios a feligreses que residan en la comunidad.

El edificio Nº 152 (capilla) ubicado en Fuerte Sherman cuenta con avalúo refrendado el cual se detalla de la siguiente manera:

Identificación	Area en m^2	Valor en B/.
Terreno	1,745.63	104,737.80
Mejoras Edif. Nº 152	314.35	39,306.14
	Total	**144,043.94**

ASIGNACION CAPILLA EN DAVIS EDIFICIO Nº 32-A

Mediante Resolución de Junta Directiva Nº 031-96 de 23 de mayo de 1996, se asignó en custodia provisional a la Diócesis Misionera de Colón y Kuna Yala de la Iglesia Católica, el uso del Edificio Nº 32-A, ubicado en la comunidad de Davis, provincia de Colón, para establecer una capilla y ofrecer servicios religiosos del culto católico y realizar obras de asistencia social.

Posteriormente por Resolución de Junta Directiva Nº 088-999 de 20 de mayo de 1999 se establece el período para la asignación del bien en mención, por un término de cinco (5) años prorrogables, pagando un canon de arrendamiento simbólico de un Balboa (B/.1.00) mensual, tal como lo establece la Resolución Nº 089-99 de 20 mayo de 1999.

Identificación	Area en m^2	Valor en B/.
Terreno	1,265.76	37,972.80
Mejoras Edif. Nº 32-A	238.09	66,095.37
	Total	**104,068.17**

Esta asignación se perfeccionó mediante Contrato de Arrendamiento Nº 1215-00 de 7 de diciembre de 2000, celebrado entre la ARI y la Diócesis Misionera de Colón- Kuna Yala por un monto total de B/.60.00 balboas.

El edificio Nº 32 se encuentra incluido dentro del polígono del proyecto Technical Development Corporation TDC, por lo tanto, la capilla no podrá continuar prestando sus servicios en esa área.

IGLESIA SAN VICENTE DE PAUL antes The Congregation of Mission, Vicentian Fathers, Licencia Nº 2719

La antigua Zona del Canal, en fecha 19 de abril de 1973, le extendió a nombre de The Congregation of Mission, Vicentian Fathers, La licencia Nº 2719, ubicada en Arco Iris, corregimiento de Cristóbal, provincia de Colón, para el uso de un área de terreno de 2,814.84 m^2, donde se ubica los edificios Nº 6180 y 6180-A de su propiedad, para ser utilizado en actividades religiosas y construir las mejoras necesarias para dicha actividad.

Con el ordenamiento de las licencias de organizaciones religiosas en el año de 1998, el Administrador General asigna mediante Resolución Administrativa Nº 389-98-11 de 1 de julio de 1998, a The Congregation of Mission, Vicentian Fathers un área de terreno de 2,814.84 m^2 en la comunidad de Arco Iris, por el término de 18 meses prorrogables.

El área donde se ubica la licencia Nº 2719 de la Iglesia Sagrada Familia en Arco Iris aunque cuenta con plano aprobado es posible que el área traslape con la servidumbre del Ferrocarril, por lo tanto se solicitó verificación del mismo, para proceder con el avalúo refrendado de dicha licencia.

IGLESIA SAGRADA FAMILIA antes The Congregation of Mission, Vicentian Fathers, Licencia Nº 2042

La antigua Zona del Canal, en fecha 9 de enero de 1967, le extendió a nombre de The Congregation of Mission, Vicentian Fathers, La licencia Nº 2042, ubicada en Margarita, corregimiento de Cristóbal, provincia de Colón, para el uso de un área de terreno de 19,801m^2, donde se ubica los edificios Nº 8316, 8318, 8320 de su propiedad, para ser utilizado en actividades religiosas y oficinas administrativas.

Con el ordenamiento de las licencias de organizaciones religiosas en el año de 1998, el Administrador General asigna mediante Resolución Administrativa Nº 389-98-4 de 1 de julio de 1998, a The Congregation of Mission, Vicentian Fathers un área de terreno de 19,801 m^2 en la comunidad de Margarita, por el término de 18 meses prorrogables.

La Licencia Nº 2042 cuenta con avalúo refrendado por un valor total de B/.893,448.00 y plano aprobado Nº 30106-80811, se remitió copia del expediente, avalúo y plano aprobado a la Dirección de Mercadeo para que se realice el proceso de venta, ya que los usuarios de la misma tiene opción a la compra del bien.

IGLESIA INMACULADA CONCEPCION antes Inmaculate Conception Mission of The Roman Catholic Church, Licencia Nº 640

La antigua Zona del Canal, en fecha 9 de enero de 1967, le extendió a nombre de Inmaculate Conception Mission of The Roman Catholic Church, La licencia Nº 640, ubicada en Gatún, corregimiento de Cristóbal, provincia de Colón, para el uso de un área de terreno de 598.50 m^2, donde se ubica los edificios Nº 147 de su propiedad, utilizado como iglesia.

Con el ordenamiento de las licencias de organizaciones religiosas en el año de 1998, el Administrador General asigna mediante Resolución Administrativa Nº 389-98-6 de 1 de julio de 1998, a Inmaculate Conception Mission of The Roman Catholic Church un área de terreno de 598.50 m^2 en Gatún, por el término de 18 meses prorrogables.

El área de terreno donde se ubica la licencia Nº 640 se encuentra incluida dentro del área de patrimonio de la Autoridad del Canal de Panamá, según la Ley 19 del 11 de junio de 1997 y es ésta entidad la que se encarga de administrar dichas áreas.

RECIBIDO
4 OCT '01

FIRMA

ARI

AUTORIDAD DE LA REGIÓN INTEROCEÁNICA
DIRECCIÓN DE BIENES REVERTIDOS

MEMORANDO No. 2924 / DBR / Caa / dab – 2001

PARA: **Lic. Harry Díaz**
Director de Asesoría Legal

DE: **Ing. Osvaldo De Sedas**
Director de Bienes Revertidos

ASUNTO: **REMISION DE EXPEDIENTES**
LICENCIAS DE GATUN

FECHA: 01 de octubre de 2001

Continuando con el trámite de transferencia a la Autoridad del Canal de Panamá, de las licencias de uso de tierras, que han quedado incluidas en las fincas de patrimonio de dicha entidad, remitimos los expedientes originales de las licencias que se muestran en el cuadro adjunto, todas ubicadas en la comunidad de Gatún, corregimiento de Cristóbal, distrito y provincia de Colón.

Aclaramos que las licencias Nº 1412 y 1794, ambas a nombre de Gatun Saddle Club, tienen una morosidad al 30 de septiembre del presente año de B/. 152,625.00 y B/. 137,775.00 respectivamente, por lo que consideramos que la Dirección a su cargo debe proceder con las diligencias legales necesarias, antes de traspasar dichas licencias a la Autoridad del Canal de Panamá.

ODS / ah / rg

Adj. Lo indicado

Legal.
4/X/01

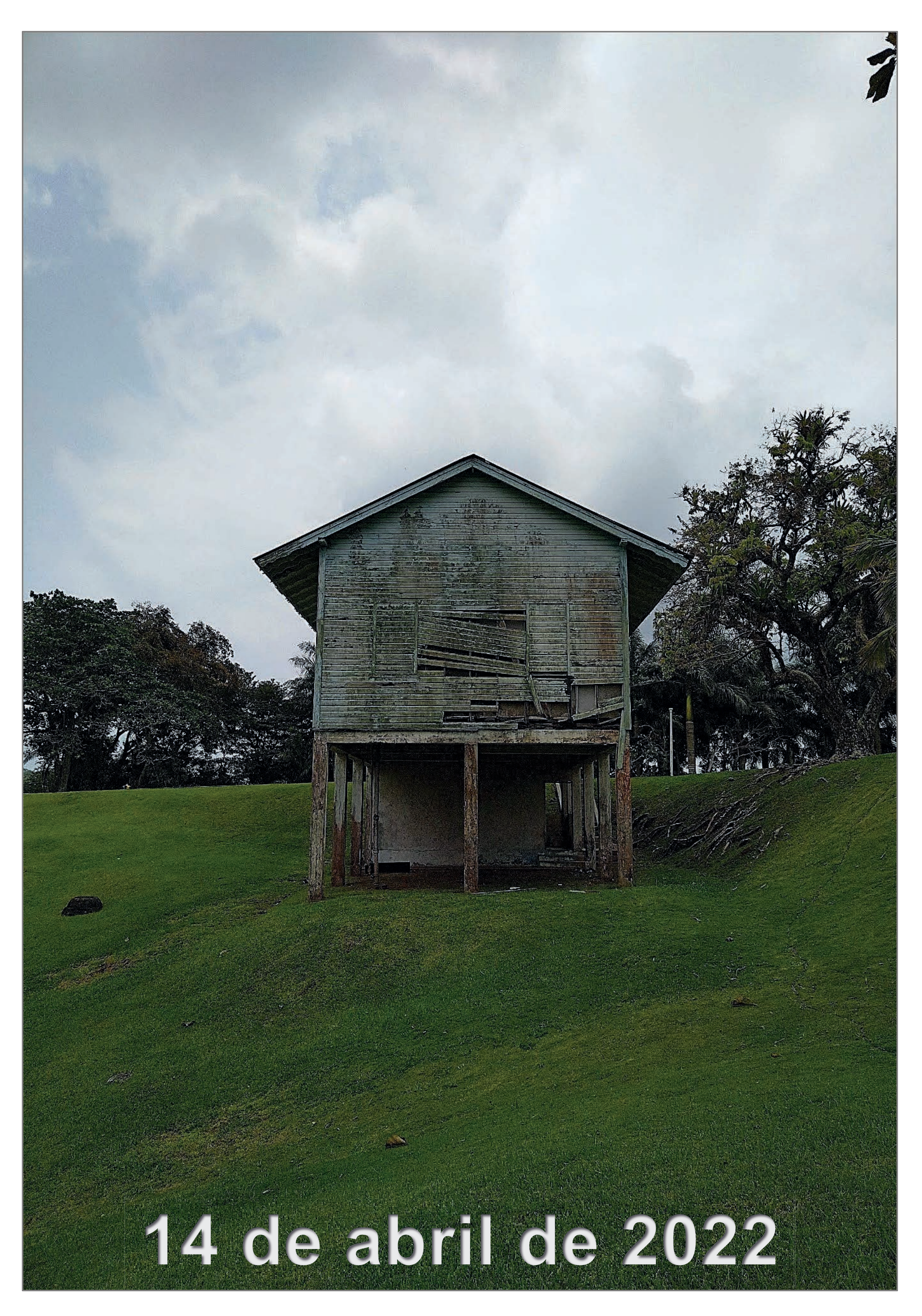
AUTORIDAD DE LA REGION INTEROCEANICA
DIRECCION DE BIENES REVERTIDOS
DEPARTAMENTO DE ASIGNACION DE BIENES
SECCION DE PERFECCIONAMIENTO DE ASIGNACIONES Y FORMALIZACION DE LICENCIAS
LICENCIAS DE GATUN A TRASPASAR A LA ACP

	N° LIC	USUARIO	EDIFICIO	AREA M2, SEGÚN LICENCIA	USO ORIGINAL	OBSERVACIONES / USO ACTUAL
1	3228	Caribbean Baptist Church	229	1,323.82	Iglesia	Iglesia
2	3227	Caribbean Baptist Church (Antes Margarita Union Church)	229-X	1,184.48	Residencia de pastor	Residencia de pastor
3	640	Inmaculate Conception Mission	147	598.50	Iglesia	Iglesia
4	2558	First Baptist Church. (Antes The Foreign Mission Board of the Southern Baptist Convention)	139	1,170.54	Residencia de pastor	Residencia de pastor
5	523	Sibert Lodge	213	1,857.07	Organización fraternal	Organización fraternal
6	1412	Gatun Saddle Club	S/N	58,400.00	Recreativo. Pastoreo de caballos	Recreativo. Pastoreo de caballos
7	1794	Gatun Saddle Club	S/N	66,000.00	Recreativo. Pastoreo de caballos	Recreativo. Pastoreo de caballos
8	2850	Mindi Acres Riding Club	S/N	317,700.00	Recreativo. Pastoreo de caballos	Mediante Res. 047-00 de 31/1/2000, se reduce el área por estar dentro de la servidumbre del ferrocarril y afectada por la calle que construirá la ACP. Por notificar.
9	1423	Panama Canal Tarpon Club	Muelle	5,200.00	Muelle	Cancelada por renuncia, Res. 514-99 de 30/12/99. Sr. Ortega ocupa una caseta por 26 años, cuidaba botes de miembros del club. El 27/1/00 se le le advirtió que debía desalojar el área, hay que inspeccionar para verificar desalojo o proceder con el mismo.
10	1571	Canal Zone Girls Council		28.9 acres	Sitio para acampar	Cancelada según Resolución 029-99 del 1/3/99, notif. por edicto.
11	1803	Transoceanic Communication, Inc.	502, 506, 507 Y 511	7,436.64	Residencias para empleados de la empresa	Cancelada Res. 715-98 de 31/12/98. Empresa cerro operaciones, renunció a la licencia y pidió que sus trabajadores continuaran ocupando las viviendas, ARI no aceptó.




2022


2022


14 de abril de 2022

B. Cinco sitios patrimoniales cercanos al Centro de Visitantes de Miraflores (CVM - 2022)

1. Cementerio del poblado de Matachín (circa 1854-1913)

Restauración 🟡 / Preservación 🟡 / Protección Legal 🔴 / Promoción Turística 🟡

2. Maquinaria de final del siglo XIX a mediados del siglo XX expuestos al salitre en el área de bienes excedentes de Corozal Oeste (en la entrada al Canal)

Restauración 🔴 / Preservación 🟡 / Protección Legal 🔴 / Promoción Turística 🔴

3. Monumentos, objetos, herramientas y documentación histórica esparcida sin mantenimiento en edificios deteriorados y sitios varios en Corozal Oeste

Restauración 🔴 / Preservación 🟡 / Protección Legal 🔴 / Promoción Turística 🔴

4. Estaciones de radio de comunicaciones de las fuerzas navales de los Estados Unidos en el Canal de Panamá: Darién (1914-1935) y Summit (1936-1999)

Restauración 🔴 / Preservación 🔴 / Protección Legal 🔴 / Promoción Turística 🔴

   a. Darién (1914-1935)
   b. Summit (1936-1999)

5. Grúa Flotante Titán (1941-2022) en la división de dragado de Gamboa (2022)

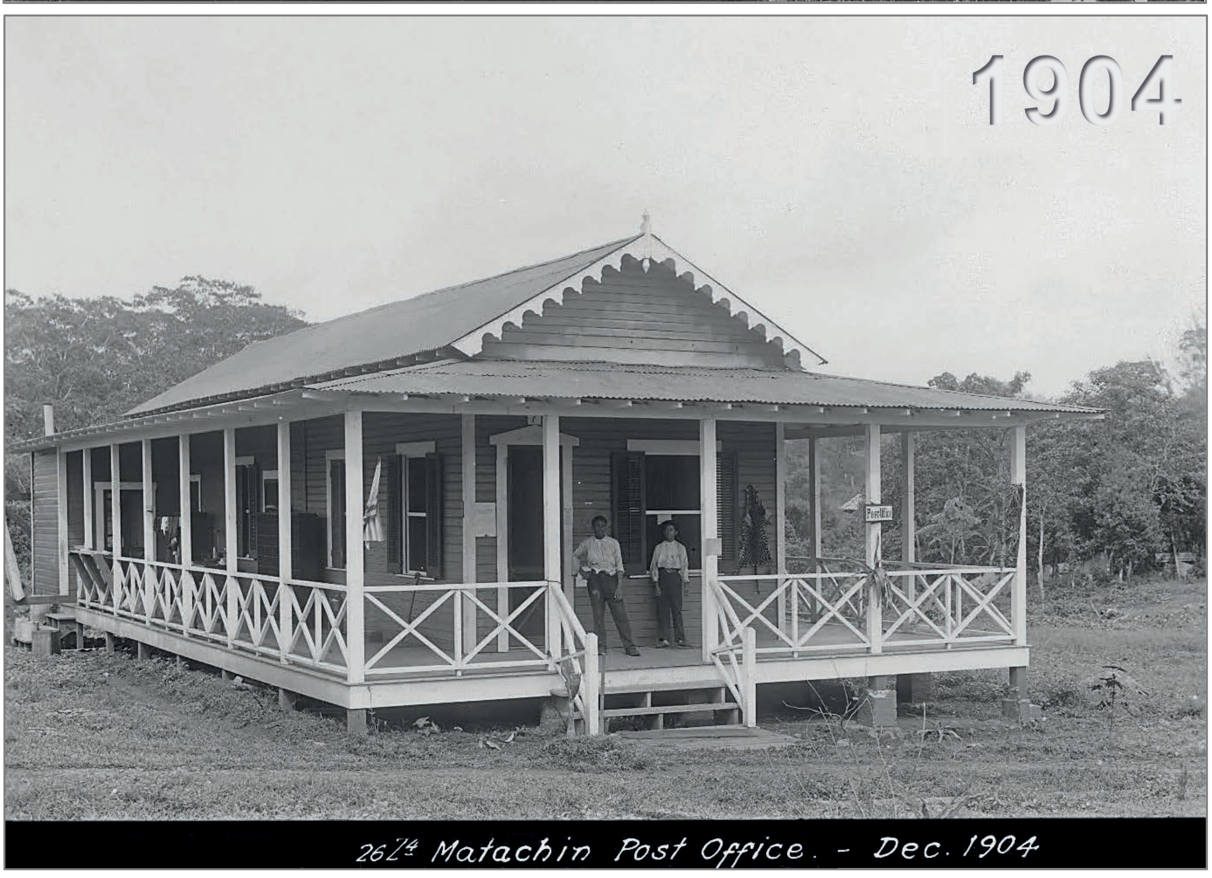
Restauración 🔴 / Preservación 🟡 / Protección Legal 🔴 / Promoción Turística 🔴

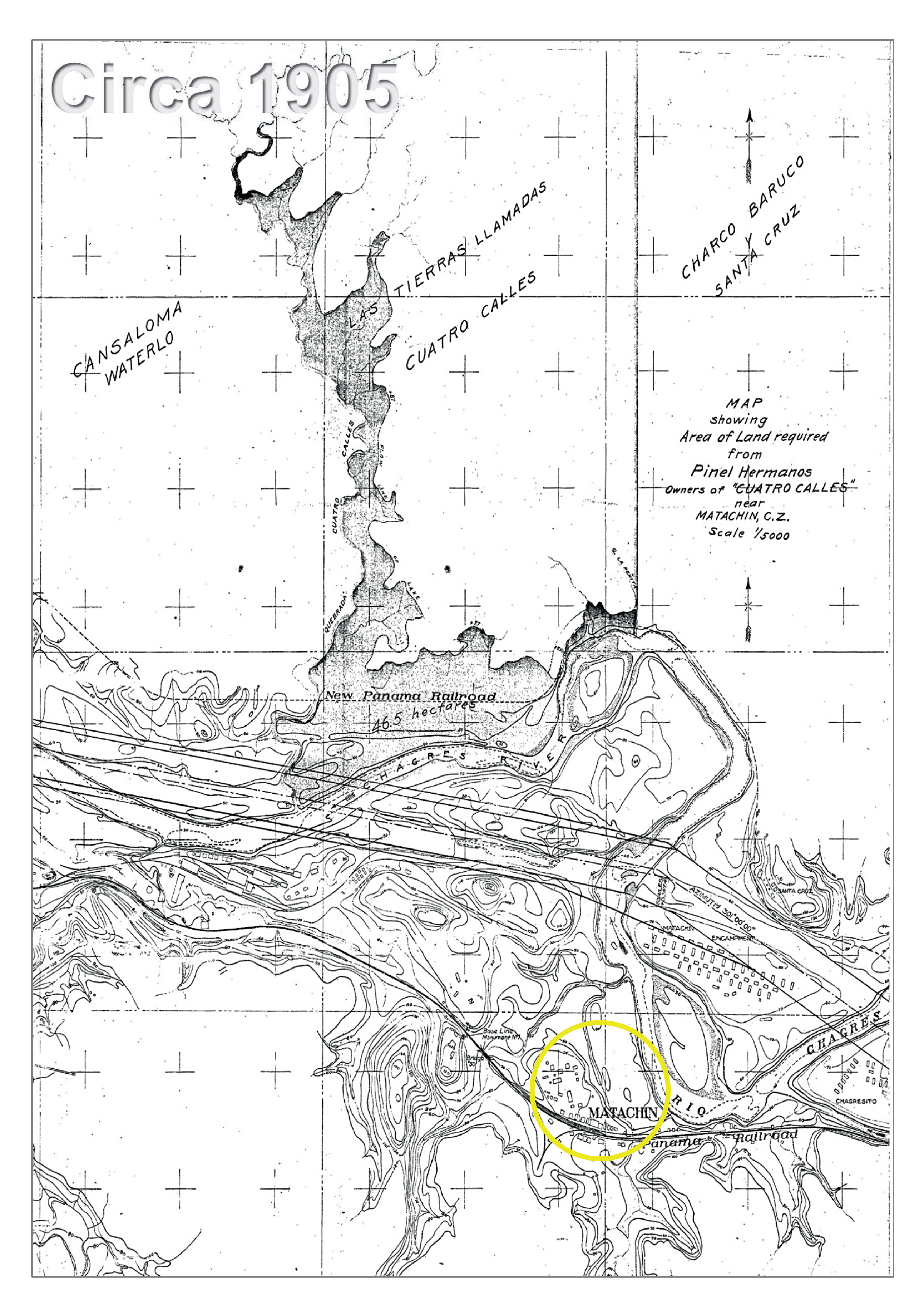
CEMENTERIO DEL POBLADO DE MATACHÍN (CIRCA 1854-1913)

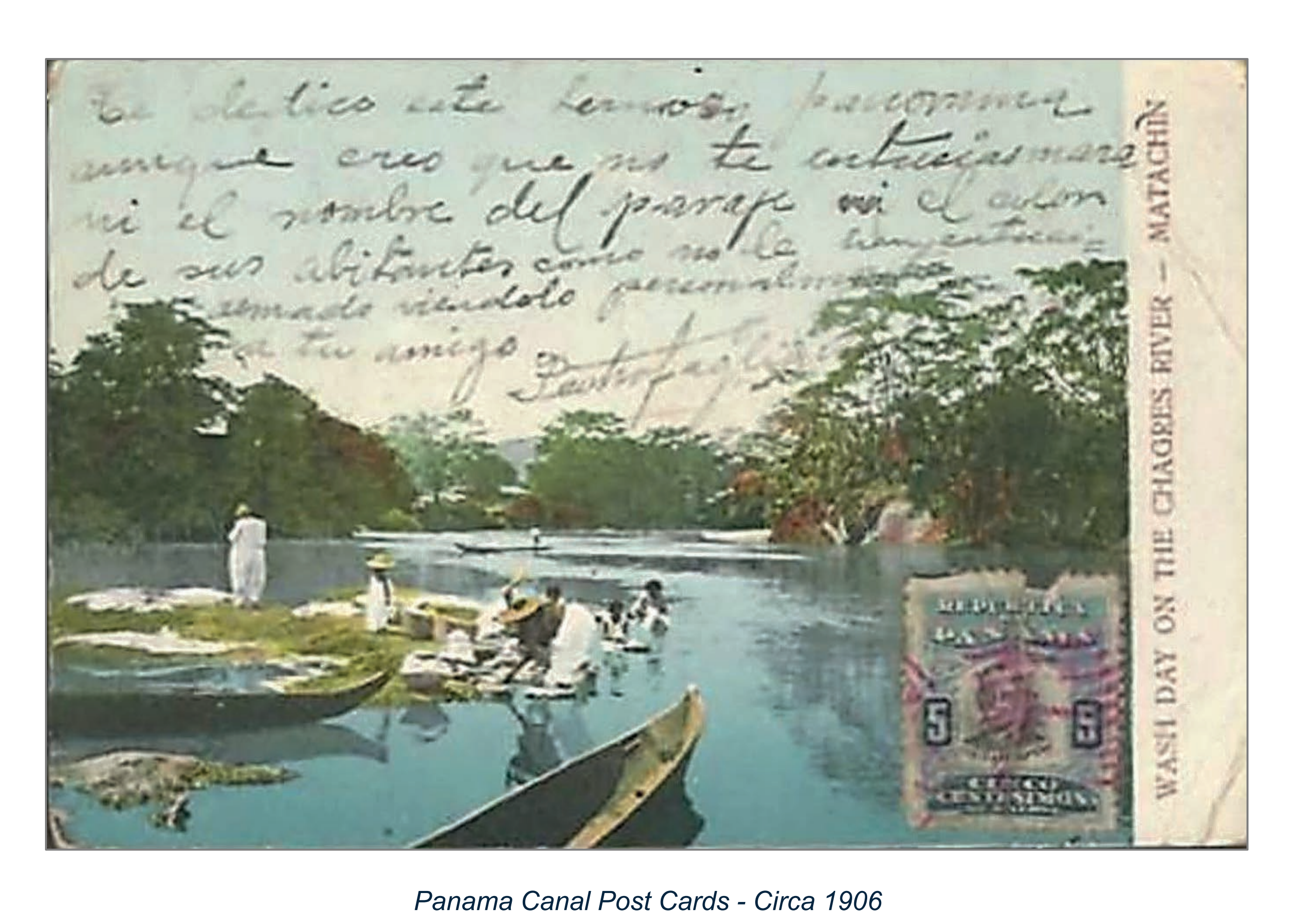


1857 - Map of the Isthmus of Panama representing the line of the Panama Railroad as constructed under the direction of George M. Totten (chief engineer) & Google Earth 2025


1888
Ecluse N° 3. 6 Novembre 1888. Matachin (Coté Aval)
Blanc Phot


1904
262A Matachin Post Office. - Dec. 1904


Circa 1905
LAS TIERRAS LLAMADAS
CUATRO CALLES
CHARCO BARUCO
Y
SANTA CRUZ
CANSALOMA
WATERLO
MAP
showing
Area of Land required
from
Pinel Hermanos
Owners of "CUATRO CALLES"
near
MATACHIN, C.Z.
Scale 1/5000
New Panama Railroad
46.5 hectares
CHAGRES RIVER
MATACHIN
RIO CHAGRES
Panama Railroad
CHAGRESITO



Panama Canal Post Cards - Circa 1906

↑ Wash Day on the Chagres River - Matachin & The Chagres river at Matachin - Canal Zone ↓



1906

Rio Carabali

GORGONA

Bas Matachin

ISTHMIAN CANAL COMMISSION

MAP OF GORGONA AND BAS MATACHIN

SCALE 1:2000

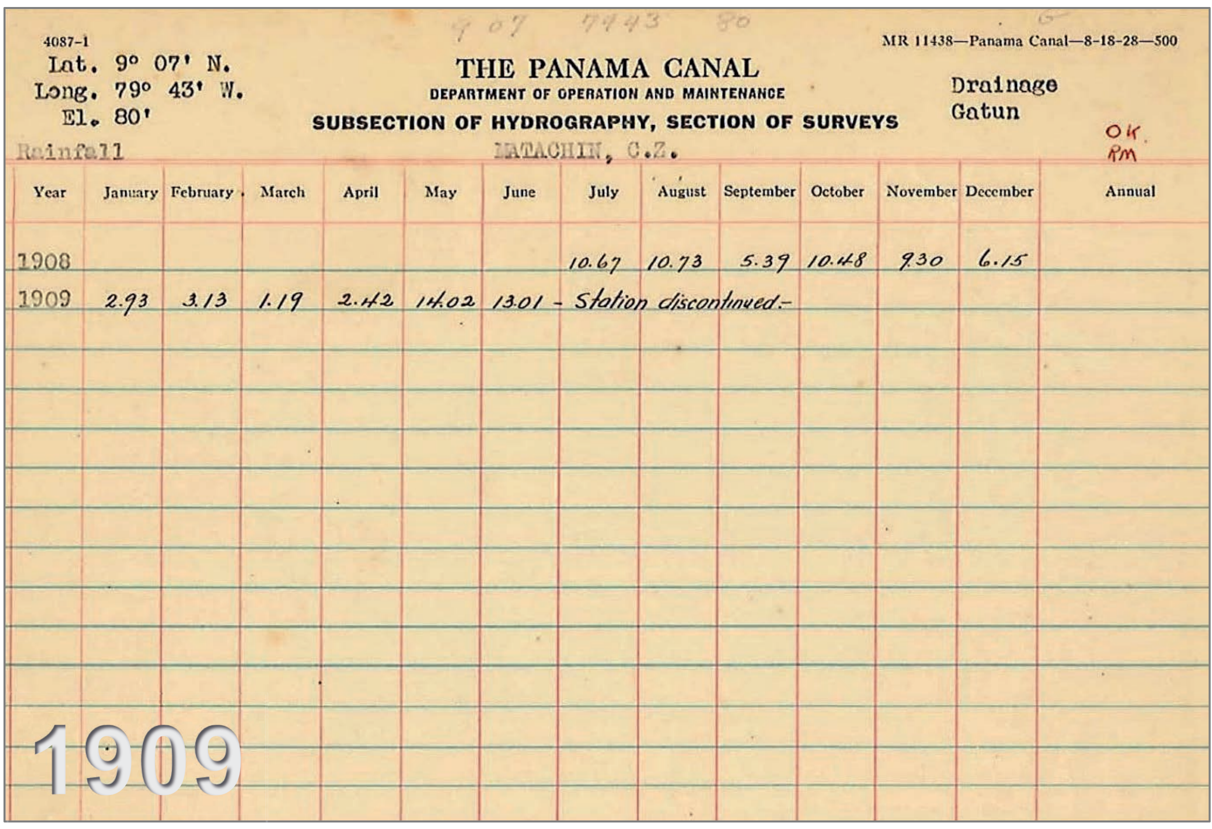
Contour Interval 5 Feet

DIVISION - MUNICIPAL ENGINEERING

J. G. HOLCOMBE

Basin of Proposed New Dam

Rio Carabali



4087-1

Lat. 9° 07' N.
Long. 79° 43' W.
El. 80'

9 07 7943 80

MR 11438—Panama Canal—8-18-28—500

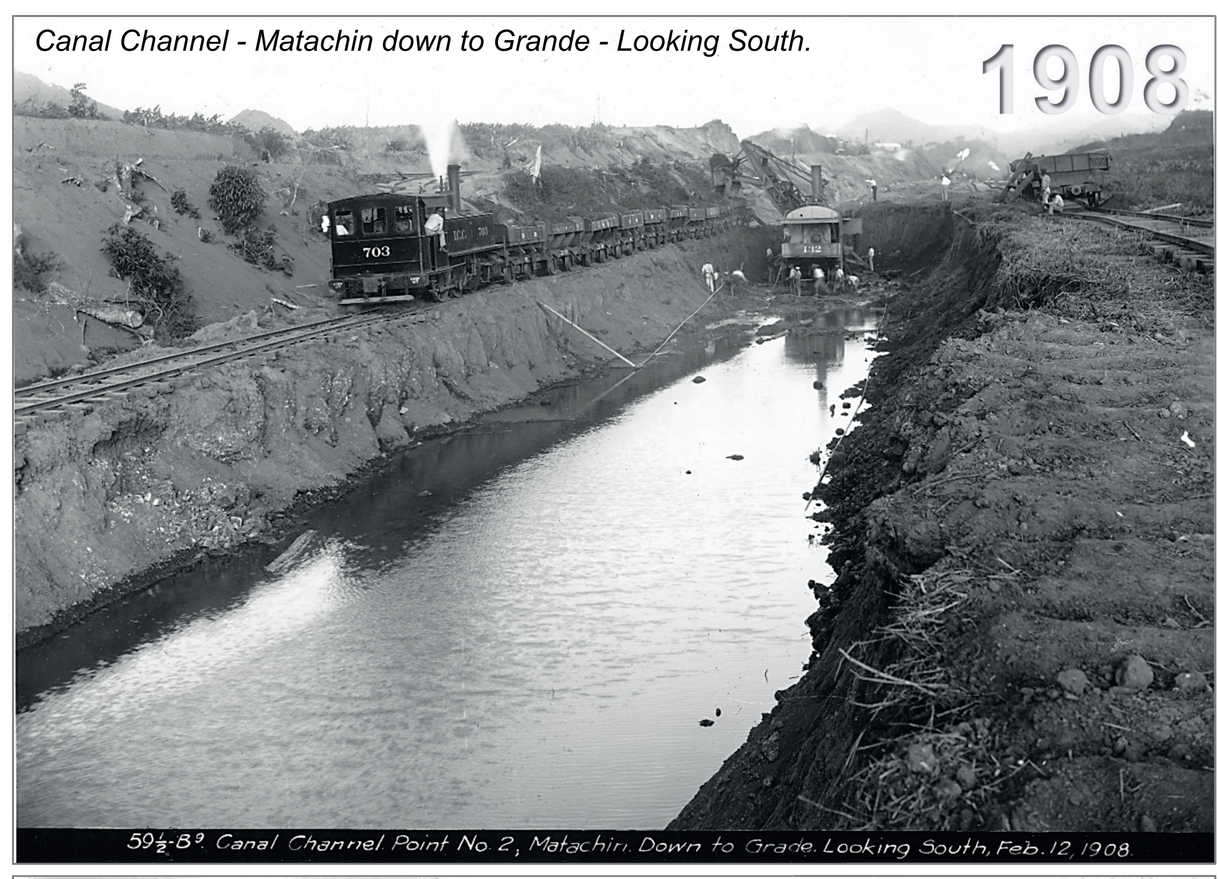
THE PANAMA CANAL
DEPARTMENT OF OPERATION AND MAINTENANCE
SUBSECTION OF HYDROGRAPHY, SECTION OF SURVEYS

Drainage
Gatun

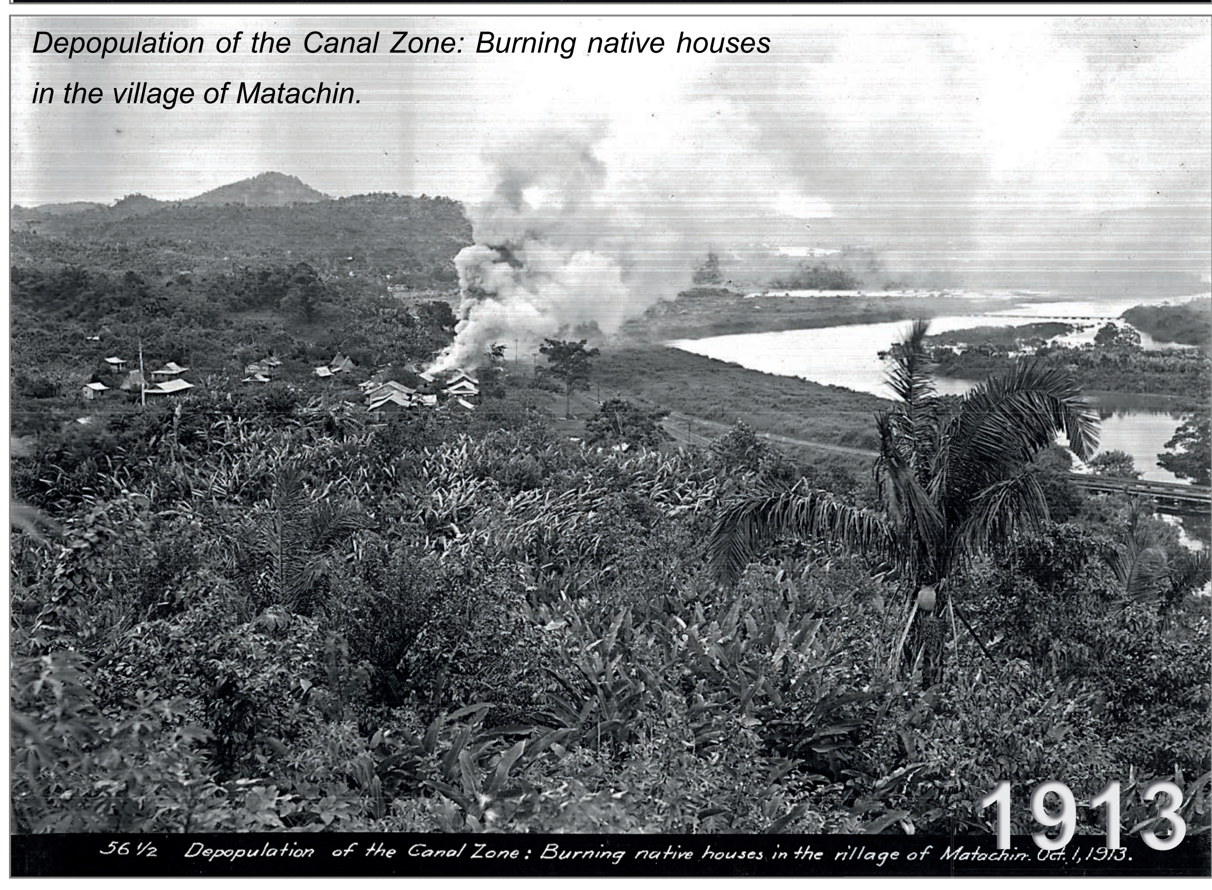
OK
RM

Rainfall — MATACHIN, C.Z.

Year	January	February	March	April	May	June	July	August	September	October	November	December	Annual
1908							10.67	10.73	5.39	10.48	9.30	6.15	
1909	2.93	3.13	1.19	2.42	14.02	13.01	- Station discontinued.-						



Canal Channel - Matachin down to Grande - Looking South.



Depopulation of the Canal Zone: Burning native houses in the village of Matachin.

5 de abril de 2022






CANAL DE PANAMA
COMUNIQUESE CON LA DIVISIÓN DE AMBIENTE
AL 276-2830
ANTES DE REALIZAR TRABAJOS DE
EXCAVACIÓN O MOVIMIENTO DE TIERRA



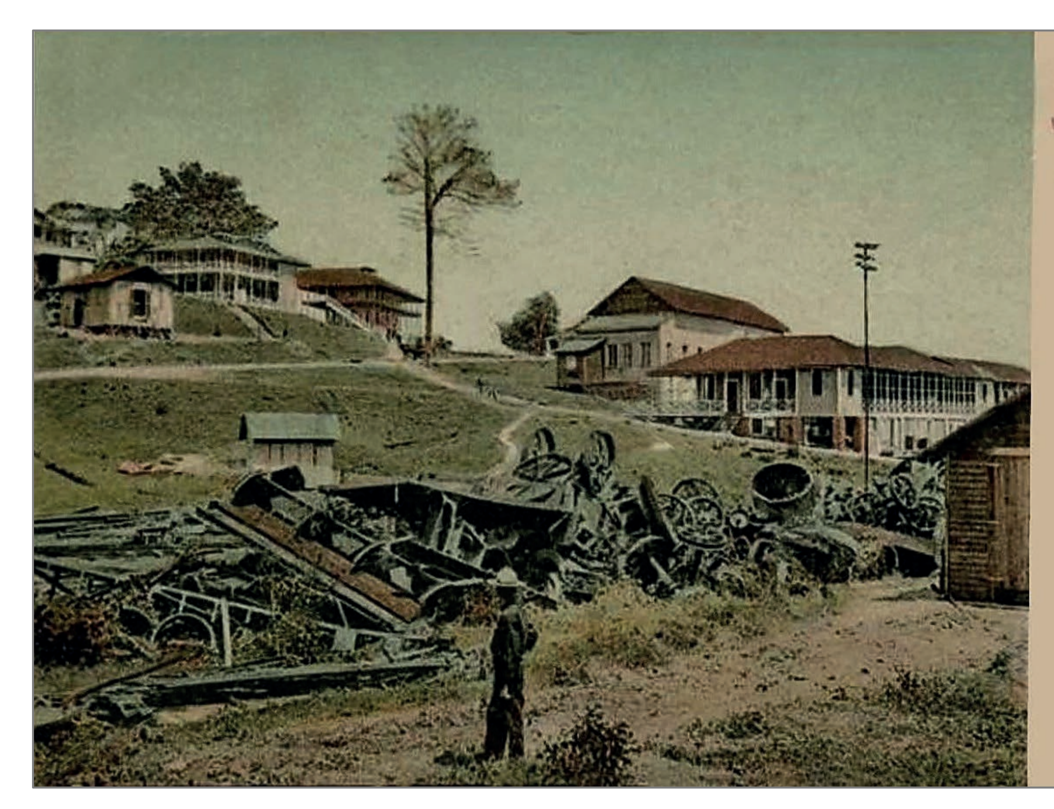




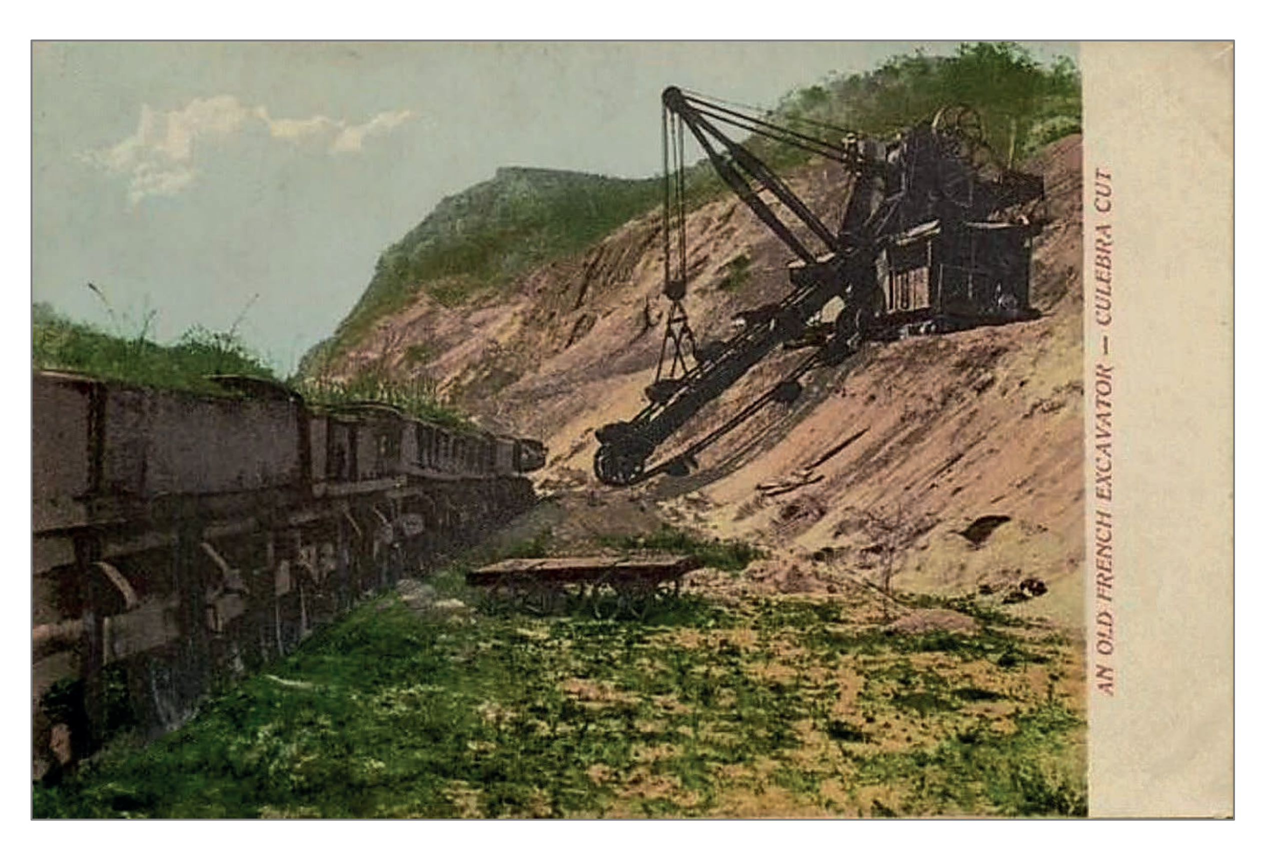
Maquinaria de final del siglo XIX a mediados del siglo XX expuestos al salitre en el área de bienes excedentes de Corozal Oeste (en la entrada al Canal)



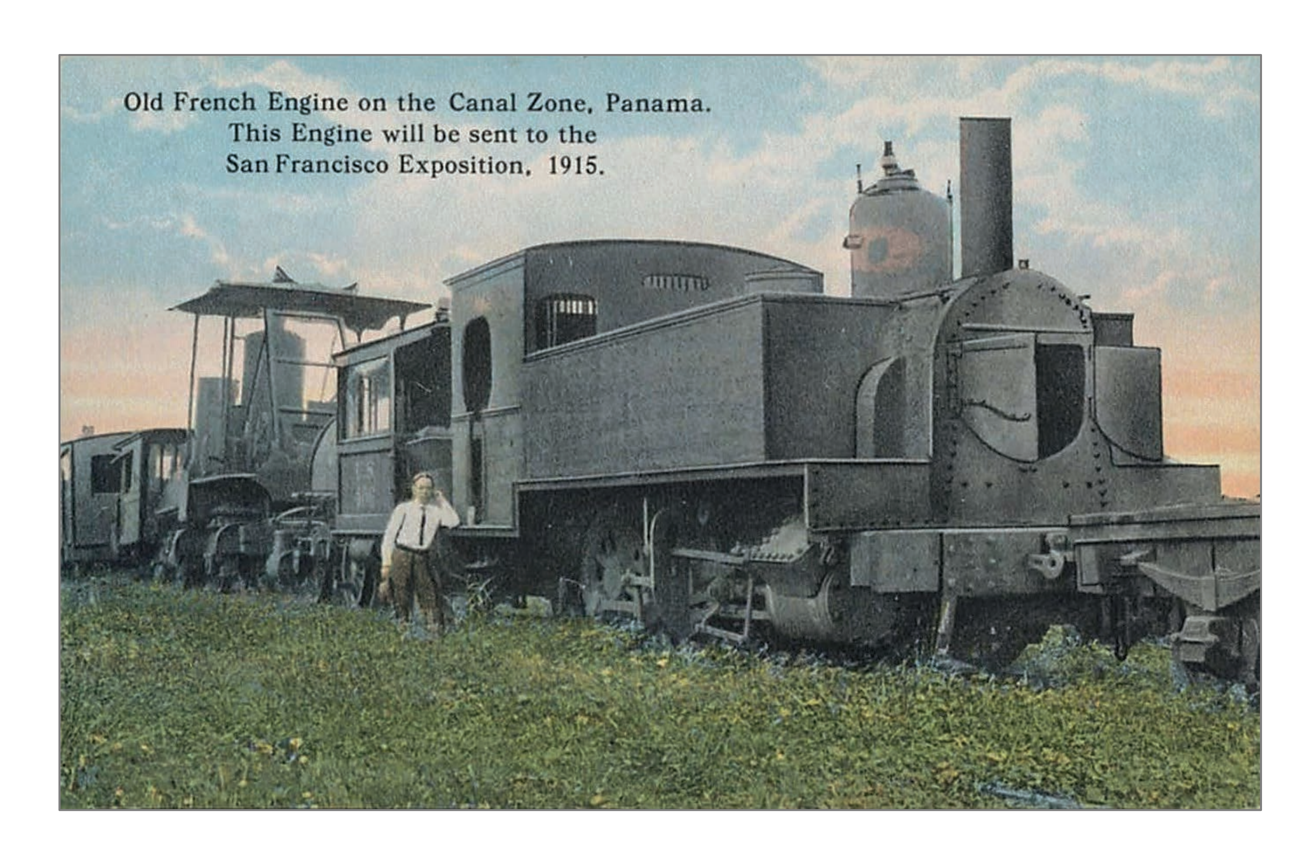




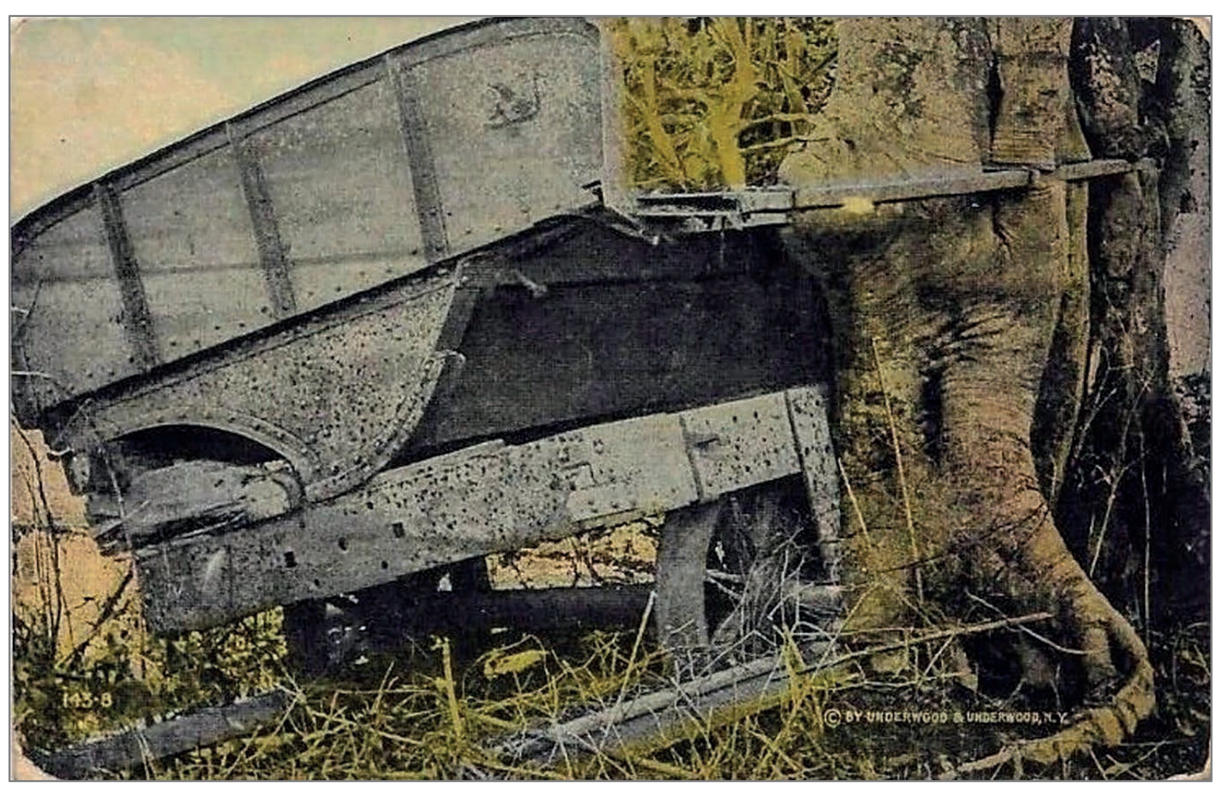
2022


AN OLD FRENCH EXCAVATOR — CULEBRA CUT


2022


Old French Engine on the Canal Zone, Panama.
This Engine will be sent to the
San Francisco Exposition, 1915.


2022

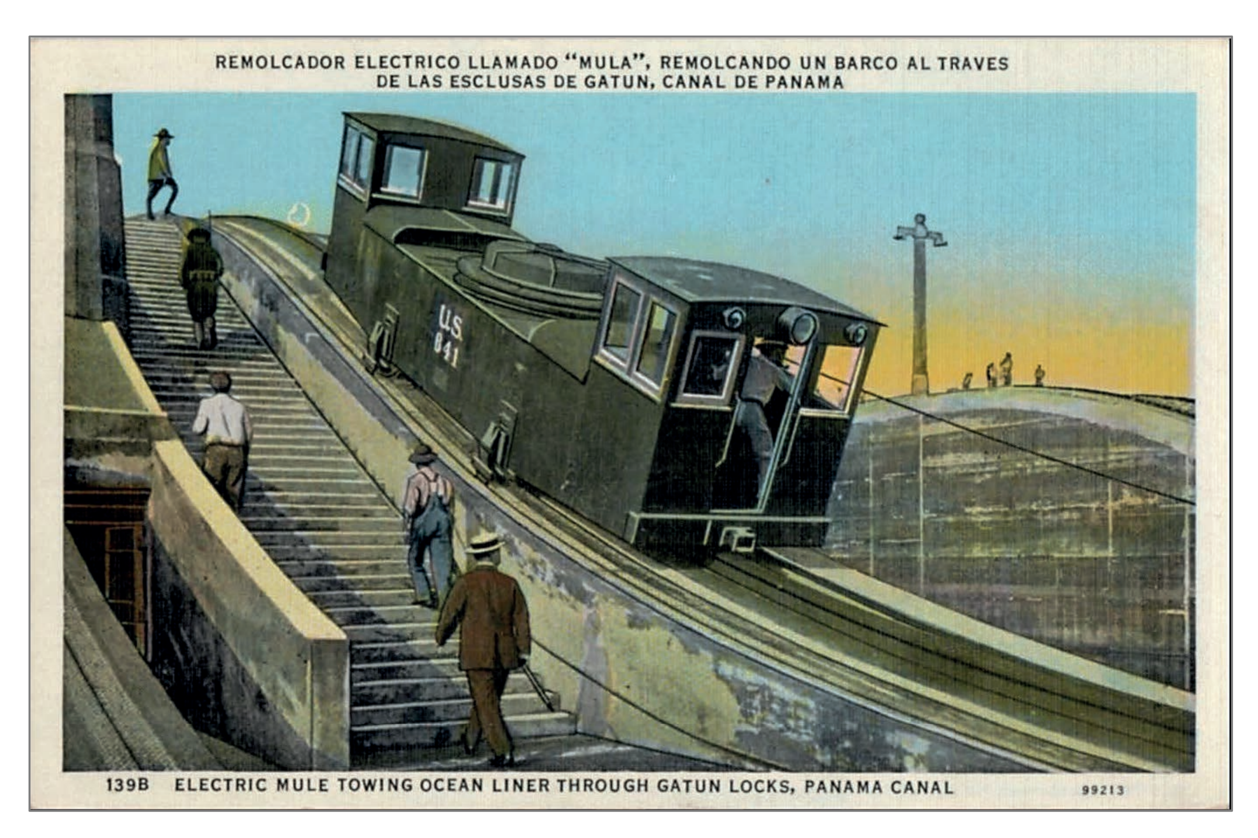


French cars left deserted along the canal route

2022


Culebra Cut showing old french dredges at work.


2022


REMOLCADOR ELECTRICO LLAMADO "MULA", REMOLCANDO UN BARCO AL TRAVES
DE LAS ESCLUSAS DE GATUN, CANAL DE PANAMA
U.S.
641
139B ELECTRIC MULE TOWING OCEAN LINER THROUGH GATUN LOCKS, PANAMA CANAL
99213


2022

Monumentos, objetos, herramientas y documentación histórica esparcida sin mantenimiento en edificios deteriorados y sitios varios en Corozal Oeste (2022)




ESTA ROCA FUE SACADA DE LA CURVA LA PITA POR LA BORDADA CUNETTE EN LA RIBERA ESTE DEL CANAL DE PANAMA EN 1995. FUE PARTE DE LOS APROXIMADAMENTE 32 MILLONES DE METROS CUBICOS DE MATERIAL EXCAVADO DURANTE EL ENSANCHE DEL CORTE GAILLARD, UN PROYECTO EMPRENDIDO PARA PERMITIR EL TRAFICO DE DOBLE VIA DE LOS BARCOS PANAMAX A TRAVES DE ESTA PORCION DEL CANAL ANTERIORMENTE RESTRINGIDA. SIMBOLIZA LOS ESFUERZOS CONTINUOS DE PANAMA Y LOS ESTADOS UNIDOS POR MEJORAR ESTA VIA ACUATICA PARA BENEFICIO DEL COMERCIO MUNDIAL.
THIS BOULDER WAS TAKEN FROM LA PITA CURVE AT CUNETTE REACH ON THE EAST BANK OF THE PANAMA CANAL IN 1995. IT WAS PART OF THE APPROXIMATELY 32 MILLION CUBIC METERS OF MATERIAL EXCAVATED DURING THE WIDENING OF THE GAILLARD CUT, A PROJECT UNDERTAKEN TO ALLOW TWO-WAY TRAFFIC BY PANAMAX VESSELS THRU THIS PREVIOUSLY RESTRICTED PORTION OF THE CANAL. IT SYMBOLIZES THE CONTINUED EFFORTS OF PANAMA AND THE UNITED STATES TO IMPROVE THIS WATERWAY FOR THE BENEFIT OF WORLD COMMERCE.
2022


2022


2022
DEDICADO A LOS
CONSTRUCTORES DEL CANAL DE PANAMA
"....USTEDES, LOS QUE AQUI TRABAJAN
ESMERADAMENTE PARA LLEVAR A FELIZ TERMINO
ESTA GRAN EMPRESA, PERDURARAN EN LA HISTORIA
EXACTAMENTE COMO PERDURAN LOS SOLDADOS DE
POCOS, Y MUY CONTADOS EJERCITOS DE MAYOR
FAMA ENTRE TODAS LAS NACIONES. ESTA ES UNA
DE LAS OBRAS MAS GRANDES DEL MUNDO...."
THEODORE ROOSEVELT 1906


2022


2022


Cuaderno
BALBOA
LATAS
2022


2022


2022


2022


Darien Radio Station
Summit Radio Station
Centro de Visitantes de Miraflores

DARIEN RADIO STATION.

New High Power Plant will Communicate with Washington Direct.

Construction is to begin shortly on the large Naval radio station at Caimito, to be known as the Darien Radio Station. This is to be a 100-kilowatt plant, of the same power as the Arlington station, near Washington. In the size of its towers it will exceed the latter; all of the three masts will be 600 feet high, whereas at Arlington one of the towers is 600 feet in height, and two are 450 feet high. The bases of the towers will be about 180 feet above sealevel, and they will be arranged in a triangle, approximately 900 feet on a side. The sending and receiving radius will be nominally 3,000 miles, so that communication may be held direct with the Arlington station, instead of by way of Key West, as at present. The station will be able to "talk" to San Francisco, 2,785 miles away by air line. The present stations

continued in us

ships using the

tion will be used

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station for comm

Navy in souther

THE DARIEN RADIO STATION OF THE U. S. NAVY (PANAMA CANAL ZONE)*

By

LIEUT. R. S. CRENSHAW (U. S. N.)



DARIEN RADIO STATION OF THE U. S. NAVY

tion for the Canal Zone,

andard set by the Canal

equipment. The layout

end of the Canal for ship

station for long distance

d just twenty-five miles

915. This paper has been cen-

ESTACIÓN DE RADIO "DARIÉN"

PATRIMONIO HISTÓRICO DEL CANAL DE PANAMÁ

Atlantic Entrance
Trinidad Turn
Bohio Turn
Orchid Turn
Frijoles Turn
Barbacoa Turn
Gamboa
San Miguelito
Centennial Bridge
Pedro Miguel Locks
Miraflores Locks
Cocolí Locks
PANAMA CITY
Arraiján
PACIFIC OCEAN
(GULF OF PANAMA)
Bridge of the Americas
Pan American Highway
Continental Divide

By The Panama Pacific Line
The Coast to Coast Recreation Route
NEW YORK~CALIFORNIA

Construcción inicia en diciembre de 1913. Ubicada en medio de la jungla colindante a la antigua estación de ferrocarril de Darién a cinco millas de Gamboa. Oficializada por el presidente Woodrow Wilson el 30 de julio de 1914. Inaugura comunicación directa entre la Zona del Canal de Panamá y Washington D. C. (Estados Unidos de América) el 5 de abril de 1915.

PANAMA RAILROAD COMPANY.

(PASSENGER TRAIN TIME TABLE NO. 20—IN EFFECT OCTOBER 11, 1916.)

COLON-PANAMA MAIN LINE AND SHUTTLE SERVICES.

SOUTHWARD.

STATIONS.	Miles from Colon	Daily except Sunday	DAILY.						Saturday only	Sunday only	Sunday only
		21	31	3	5	33	7	35	9	53	55
Leave.		A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	P. M.
Third Street	......	5.50									
Fifth Street	......	s5.51									
Colon	......	s5.53		7.15	11.05		5.05		[illegible]		
Commissary		s5.55									
Shops		s5.57					s5.10				
Mount Hope	1.57	s6.01		s7.20	s11.10		s5.15		s11.40		
Mindi	4.40	s6.07									
New Gatun	5.94	s6.10		f7.28	f11.18		f5.23		f11.48		
Gatun	6.79	6.13		s7.30	s11.20		s5.25		s11.50 A. M.		
Monte Lirio	14.48			s7.45	s11.35		s5.40		s12.06		
Frijoles	20.92			s7.56	s11.46		s5.51		s12.17		
Darien	25.27			s8.04	f11.54 P. M.		s5.59		12.25		
Gamboa	30.26			s8.14	s12.01		s6.10		s12.35		
New Culebra	35.19			f8.30	f12.15		f6.20		f12.46		
Las Cascadas	47.93		7.00			1.05		7.15		1.40	11.40
Empire	45.64		s7.05			s1.10		s7.20		s1.45	s11.45
Culebra	44.65		s7.10			s1.15		s7.25		s1.50	s11.50 A. M.
Paraiso	40.95		s7.25			s1.30		s7.40		s2.05	s12.05
Pedro Miguel	40.24	......	s7.28	s8.48	s12.29	s1.33	s6.34	s7.43	s12.58	s2.08	s12.08
Miraflores Locks	42.35	......	s7.34	s8.50	s12.35	s1.39	s6.40	s7.49	1.04	s2.14	s12.14
Corozal	44.24	......	s7.39	s8.54	s12.39	s1.44	s6.44	s7.54	s1.09	s2.19	s12.19
Balboa Heights	46.25	......	s7.45	s9.00	s12.45	s1.50	s6.50	s8.00	s1.15	s2.25	s12.25
Panama	47.61		7.50	9.05	12.50	1.55	6.55	8.05	1.20	2.30	12.30
		A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	A. M.
		21	31	3	5	33	7	35	9	53	55

NORTHWARD.

STATIONS.	Miles from Colon	Mixed Daily	Daily except Sunday	DAILY.					SUNDAY ONLY.		
		30	22	4	6	32	8	34	10	52	54
Leave.		A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	P. M.
Panama	47.61	5.00	......	7.10	11.00	12.10	5.05	6.15	11.30	12.40	10.40
Balboa Heights	46.25	s5.05	......	s7.15	s11.05	s12.15	s5.10	s6.20	s11.35	s12.45	s10.45
Corozal	44.24	s5.11	......	s7.21	s11.12	s12.21	s5.16	s6.26	s11.42	s12.51	s10.51
Miraflores Locks	42.35	s5.16	......	s7.26	s11.16	s12.26	s5.21	s6.31	11.46	s12.56	s10.56
Pedro Miguel	40.24	s5.26	......	s7.33	s11.23	12.33	s5.28	s6.38	s11.53	s1.03	s11.03
Paraiso	40.95	s5.29	......		......	s12.36	......	s6.41	......	s1.06	s11.06
Culebra	44.65	s6.03	......		......	s12.49	......	s6.55	......	s1.19	s11.19
Empire	45.64	s6.28	......		......	s12.53	......	s7.00	......	s1.24	s11.24
Las Cascadas	47.93	6.33	......		......	12.58	......	7.05	...... A. M.	1.29	11.29
New Culebra	35.19	......	......	f7.45	f11.35	......	f5.40	......	f12.06	......	......
Gamboa	30.26	......	......	s7.55	s11.45	......	s5.50	......	s12.16	......	......
Darien	25.27	......	......	s8.06	s11.56 P. M.	......	s6.01	......	12.27	......	......
Frijoles	20.92	......	......	s8.14	s12.04	......	s6.09	......	s12.34	......	......
Monte Lirio	14.48	......	......	s8.25	s12.15	......	s6.20	......	s12.45	......	......
Gatun	6.79	......	6.25	s8.40	s12.30	......	s6.35	......	s1.00	......	......
New Gatun	5.94	......	s6.28	s8.42	s12.32	......	s6.37	......	s1.02	......	......
Mindi	4.40	......	s6.31	......	......	......	......	......	......	......	......
Mount Hope	1.57	......	s6.37	s8.[illegible]	s12.40	......	s6.45	......	s1.10	......	......
Shops	......	......	s6.41	......	......	......	......	......	......	......	......
Commissary	......	......	s6.43	......	......	......	......	......	......	......	......
Colon	......	......	s6.45	[illegible]	12.45	......	6.50	......	1.15	......	......
Fifth Street	......	......	......	......	......	......	......	......	......	......	......
Third Street	......	......	......	......	......	......	......	......	......	......	......
		A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	P. M.
		30	22	4	6	32	8	34	10	52	54

WIRELESS NOW OPEN WITH CANAL ZONE

First Daylight and Unrelayed Message from New Government Station Reaches Arlington.

Special to The New York Times.

WASHINGTON, May 3.—Secretary Daniels announced today that the first daylight message from the new naval radio station at Darien, in the Panama Canal Zone, to the navy radio station at Arlington, overlooking Washington from the south bank of the Potomac, was received on Friday, April 30. It was the first official message between these two links in the chain of high-powered radio stations that the navy will have in operation between Washington and the Philippines next Winter. Until this was received, all messages from the Navy Department to the Canal Zone had to be sent at night and be relayed. In the future these messages will be handled day and night via the new *Darien* station.

The distance from Arlington to the Canal Zone is 2,000 miles. The sending and receiving radius of the new Darien station is 4,000 miles. The opening of direct communication will affect a material saving to the Government in cable tolls ,as it is expected that in a short time all official telegrams of the Government to the Canal Zone will be handled by the Arlington-Darien radio route. Captain Bullard said tonight it was not the intention for the present to handle commercial messages over this radio line, because the business of the Government with the vessels of the navy and of the War Department with the Canal Zone would be of sufficient volume for the capacity of the plant.

Radio experts of the navy appear to be much gratified over the success of the Darien station because when it was contracted for the type of equipment selected was practically discredited by a majority of the eminent technical authorities throughout the world. The Navy Department, however, through its own investigations and with the co-operation of the American manufacturers of the apparatus, had come into possession of reassuring data. Scientific development during the last year, the installation of this system at the Tuckerton station in New Jersey, and the success of its installation at Darien has confirmed the decision of the radio experts of the navy to adopt this type of installation for long distance radio telegraphy.

The type of radio installation at the Darien station is the Poulsen arc system, and this station wil be the most powerful in the world using exclusively this style of equipment. Since the United States Navy has been in temporary control of the German radio station at Tuckerton, the Poulsen arc system has ben installed at that point and Captain Bullard said tonight that this system was being successfully used there in communicating with Berlin in daylight as well as by night.

Captain Bullard said the Tuckerton station was now sending a large volume of messages daily direct from Tuckerton to the station at Eilvese, a suburb of Berlin, a distance of about 4,000 miles, and was also receiving messages from Berlin daily. The station, he said, was handling all the business offered, and the number of words handled between Tuckerton and Berlin each week was now averaging about 10,000.

The New York Times
Published: May 4, 1915

OCTOBER 20, 1915. No. 9.

WIRELESS TELEPHONY.

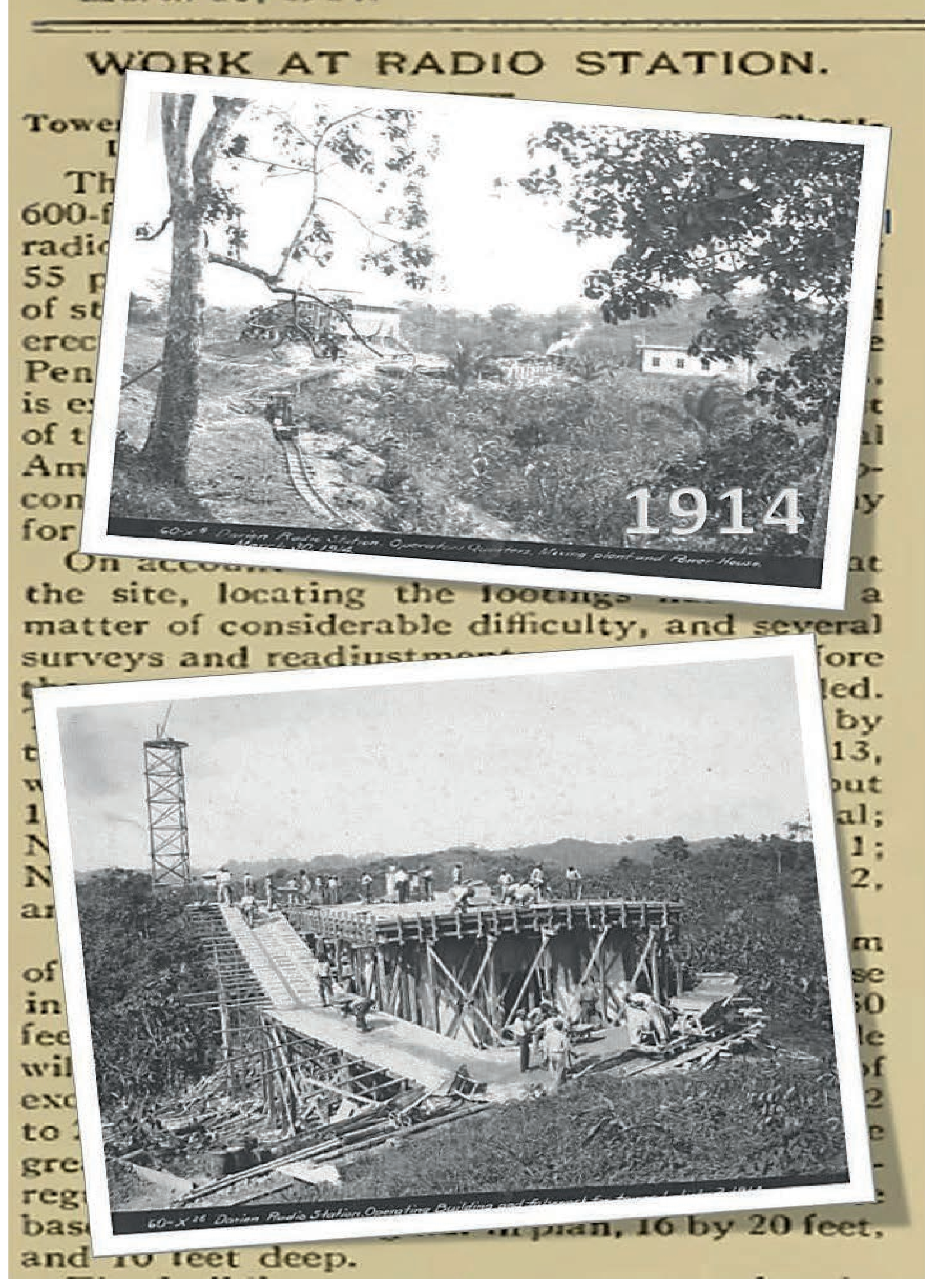
Darien Radio Station Has Received Aerial Telephone Messages since August 27.

In the recent tests of the wireless telephone, in the course of which speech was transmitted from the radio station at Arlington to Mare Island and San Diego, California, and to Pearl Harbor, Hawaii, the radio station at Darien played an interesting part which it has become permissible to reveal since the publication of the results in the United States.

In the development of the invention, begun early in the year, the American Telephone and Telegraph Company established a radio plant at Montauk Point, Long Island, from which messages were sent by aerial telephony to New York City, then to Wilmington, Del., 200 miles away, and finally to St. Simon's Island, which lies off the coast of Georgia, about 60 miles south by west from Savannah and about 1,000 miles from Montauk Point.

The success of this transmission led the company to secure the cooperation of the Navy Department for the use of the high power radio station at Arlington for the sending of messages and of other Navy stations for experiments in receiving them. It was agreed on account of the situation with respect to the patent on the device that entire secrecy should be preserved.

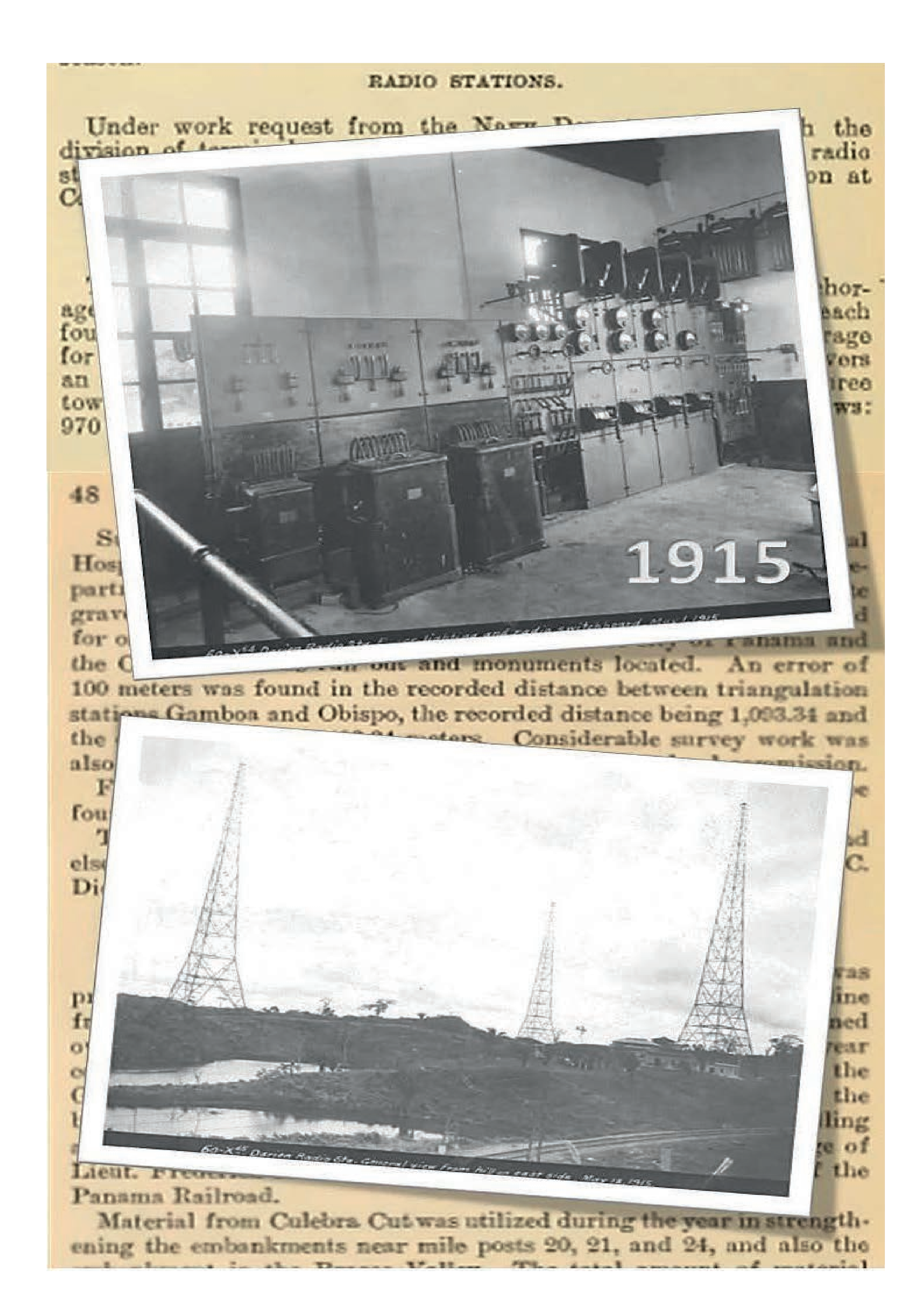
In the subsequent experiments the Darien station was the first of the remote stations to receive any of the test messages. The first satisfactory receipt of a message at Darien was on August 27, over a month in advance of the performance of September 29 in which transmission was made from Arlington to San Francisco, and following which the results of the tests were made public. Transmission to Darien, a distance of 2,100 miles from Arlington, was an important step beyond the 1,000-mile communication from Montauk Point to St. Simon's Island, and served as a practical assurance that transcontinental radiotelephony was feasible. The talk in the official test on September 29 was not heard by the men at Darien because they were not "listening in" at the time. A message telling them to listen at noon of the 29th had been sent by radiotelegraphy to New Orleans, to be relayed to Darien, but the blowing over of one of the towers of the New Orleans station by the most recent hurricane put that station out of business and delayed the transmission of the message to Darien until after the tests of September 29 were over. However, parts of the transmission of that day were heard by fortuitous listening, and many other messages have been received from time to time. In all the regular tests of transmission to Darien the engineer of the American Telephone and Telegraph Company stationed at Darien had at least one of the Navy men with him as a witness, in order that his reports might be corroborated officially.


March 18, 1914.

WORK AT RADIO STATION.

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matter of considerable difficulty, and several
surveys and readjustments
base
and 10 feet deep.


RADIO STATIONS.

Under work request from the Nav[...] the division of t[...] radio st[...]on at C[...]

48

Hos[...]
for o[...] of Panama and the C[...] out and monuments located. An error of 100 meters was found in the recorded distance between triangulation stations Gamboa and Obispo, the recorded distance being 1,093.34 and the [...] meters. Considerable survey work was also [...] commission.

Lieut. [...] the Panama Railroad.

Material from Culebra Cut was utilized during the year in strengthening the embankments near mile posts 20, 21, and 24, and also the [...]

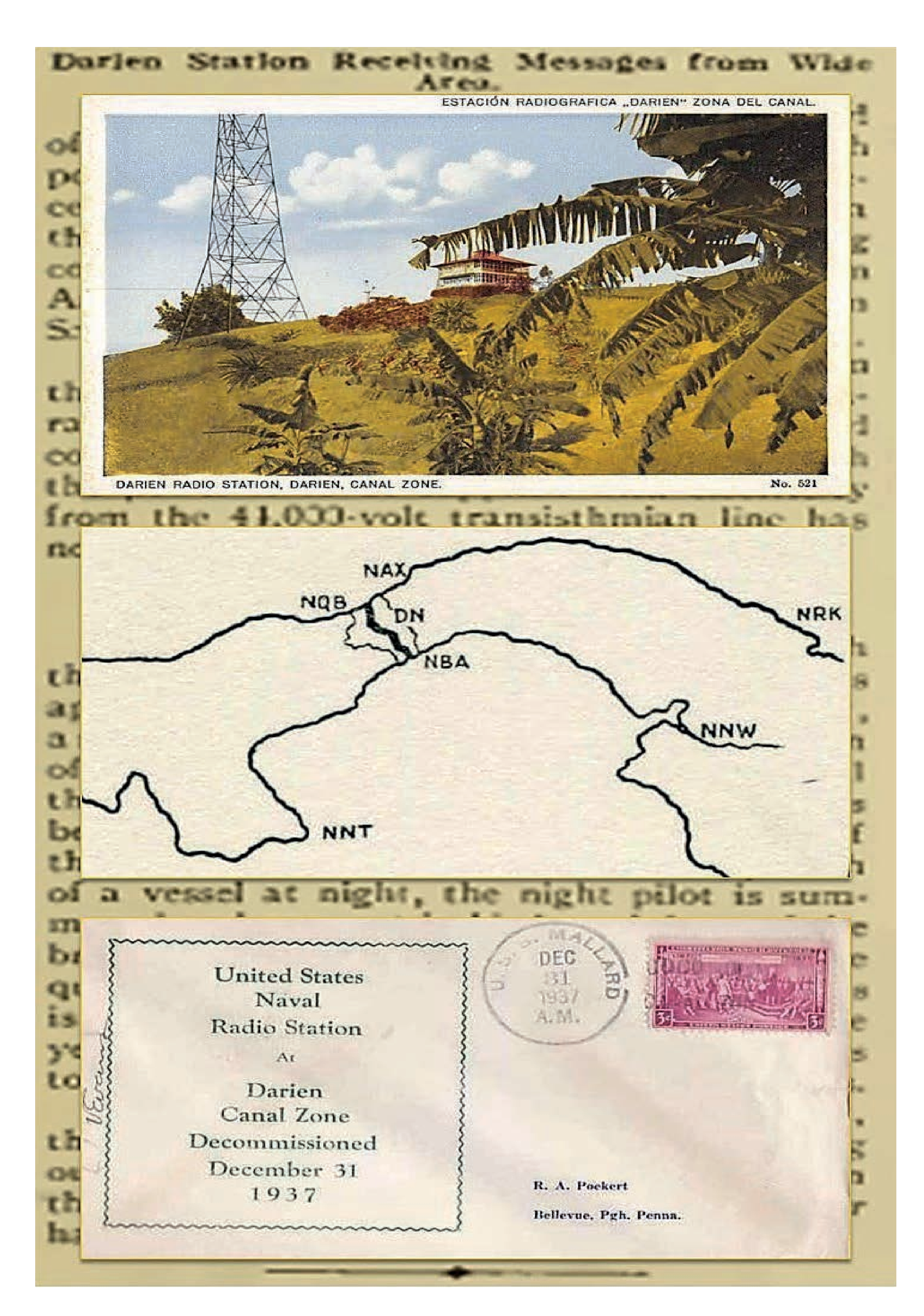


RADIO STATIONS.

At Darien, the contract ... with
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Preliminary drawings, including general
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Darien Station Receiving Messages from Wide Area.
ESTACIÓN RADIOGRAFICA „DARIEN“ ZONA DEL CANAL.
DARIEN RADIO STATION, DARIEN, CANAL ZONE.
No. 521
from the 41,000-volt transisthmian line has
NAX
NQB
DN
NRK
NBA
NNW
NNT
of a vessel at night, the night pilot is sum-
United States
Naval
Radio Station
At
Darien
Canal Zone
Decommissioned
December 31
1937
U.S.S. MALLARD
DEC
31
1937
A.M.
R. A. Poekert
Bellevue, Pgh. Penna.





ECONOMÍA EMPRESAS ACTUALIDAD MIS FINANZAS INTERNACIONALES ESPECIALES

Canal de Panamá proyecta entregar en una década aportes directos por $21,500 millones



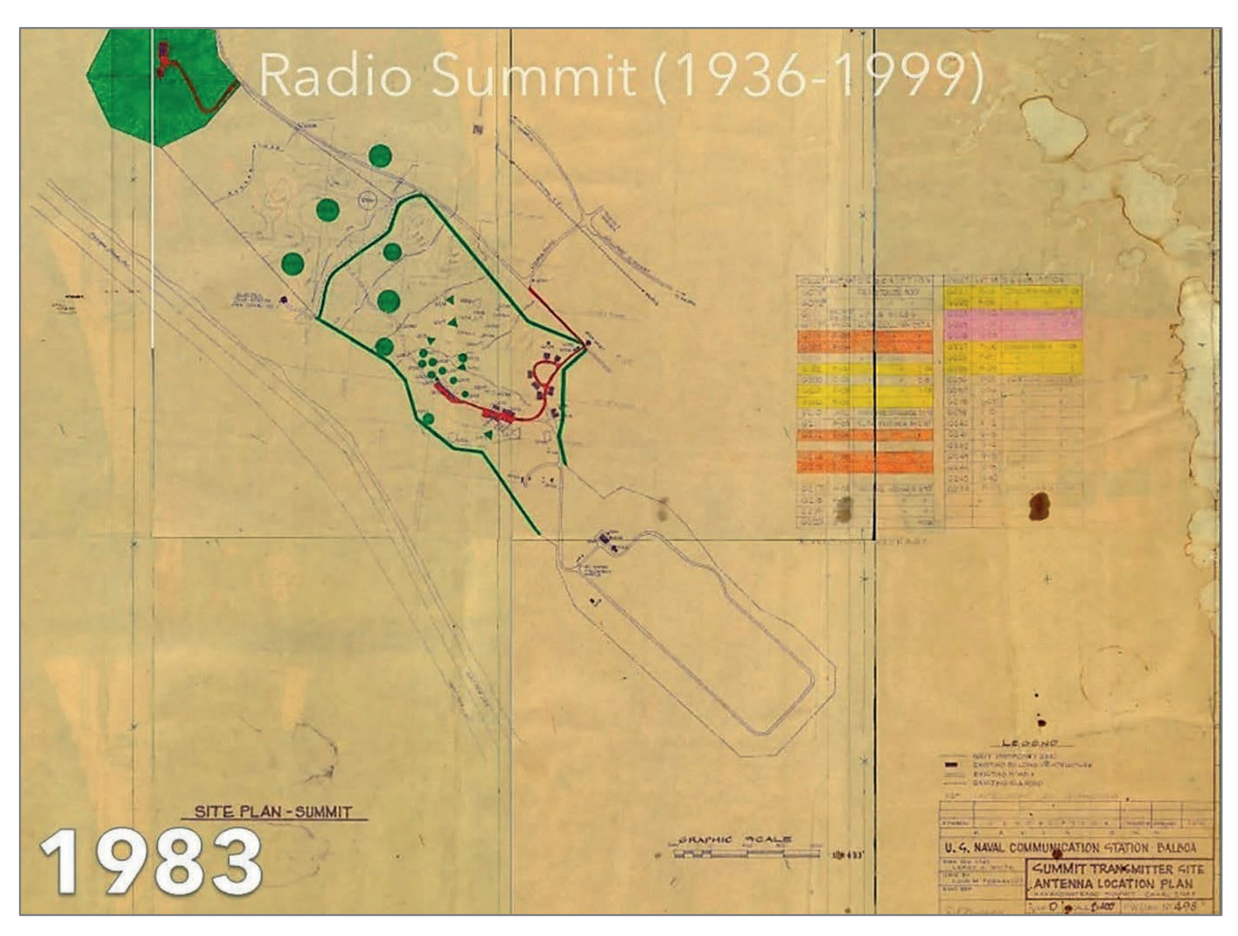




¿Cuánto aporta el Canal de Panamá a la economía panameña? ^

Ciudad de **Panamá** — El **Canal de Panamá** entregó al Tesoro Nacional un aporte de US$ 2.494,4 millones en concepto de los excedentes, derechos por tonelada de tránsito y el pago por servicios prestados por el Estado durante el año fiscal 2022. 12/21/2022

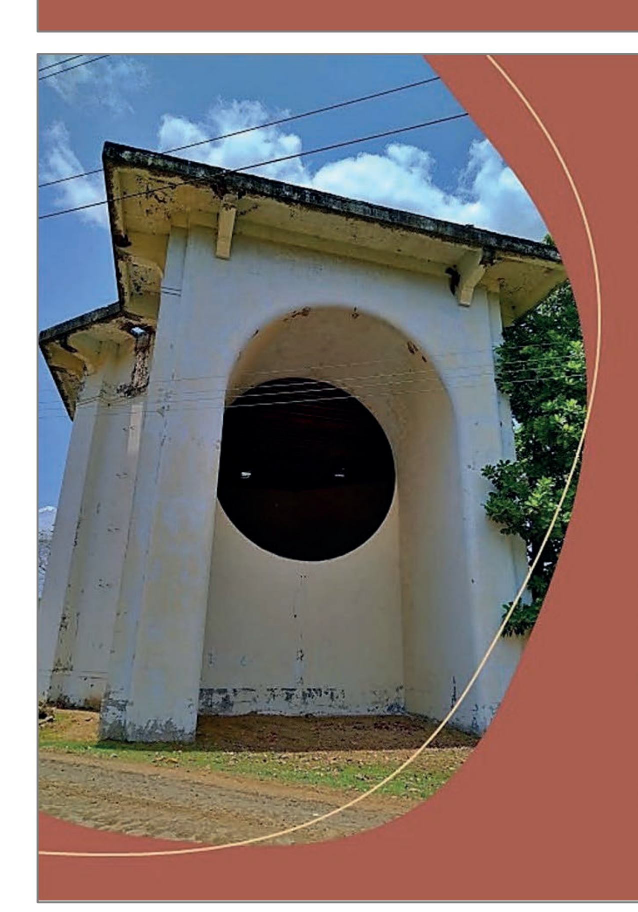






Mapa sobrepuesto en Google Earth Pro

Hasta el 2022, de las decenas de estructuras del mapa anterior de 1983, la mayoría fue demolida y su historia quedó enterrada bajo el sitio del depósito E-1 del proyecto de ensanche del Corte Culebra. Solo quedan algunos edificios en pie, pero sin ningún tipo de mantenimiento, reparación o planes de restauración desde su reversión.



Colindante al Parque Municipal Summit y cerca del Centro de Visitantes de Miraflores.

"Restaurar el pasado no es solo reconstruir estructuras, es revivir la memoria y dar nueva vida a la identidad cultural que define nuestras raíces."

1934

Notices to Mariners and Aviators

Summit, Canal Zone, Radio Station, obstacle to light.—Notice No. 403, issued by The Panama Canal on September 19, 1934, stated that three 300-foot radio towers are under construction about three-quarters of a mile north of Gold Hill on east side of Canal. The tops of these towers will ultimately reach an elevation of 520 feet. The elevation of Gold Hill is about 650 feet. During construction of these towers they will not be marked by obstacle lights. The pilots of aircraft are warned to avoid this area.

Pacific coast, Colombia, Buenaventura, new light.—Notice No. 404, issued September 19, 1934, stated that the captain of the tug *Favorite* reported that on September 13, a new gas buoy had again been established to mark the wreck of the *Tritonia* in Buenaventura harbor.

Approximate position: Latitude 3°52′40″ north, longitude 77°52′10″ west. This buoy to be passed on port side on entering and starboard side on leaving.

Notice to Aviators

BALBOA HEIGHTS, C.Z., *November 14, 1935.*

No. 206.

SUMMIT, C.Z., RADIO TOWERS, WATER TOWER, OBSTACLE LIGHTS

1. Three 300-foot and six 600-foot steel towers (the latter spaced three in a row, 1,250 feet apart along the system's main axis, and 500 feet on each side of this axis) are now constructed on the east side of the Panama Canal; they are painted in horizontal bands in international orange and black colors. The towers' location are as below:

Six hundred-foot towers:
Tower No. 1, lat. 9°03′20″ N., long. 79°39′06″ W.
Tower No. 2, lat. 9°03′28″ N., long. 79°39′00″ W.
Tower No. 3, lat. 9°03′13″ N., long. 79°38′56″ W.
Tower No. 4, lat. 9°03′21″ N., long. 79°38′50″ W.
Tower No. 5, lat. 9°03′06″ N., long. 79°38′45″ W.
Tower No. 6. lat. 9°03′14″ N., long. 79°38′40″ W.

Three hundred-foot towers:
Tower No. 9, lat. 9°03′42″ N., long. 79°39′28″ W.
Tower No. 10, lat. 9°03′38″ N., long. 79°39′27″ W.
Tower No. 11, lat. 9°03′36″ N., long. 79°39′24″ W.

Permanent obstacle fixed lights are located at the third points on the outside legs, and at the tops of all 600-foot and 300-foot towers. Lights on tower legs are 50-watt units; lights on the extreme top are the twin unit type of two 50-watt lamps. Each lamp is enclosed in a red globe.

2. Nearby the radio towers there is also a steel water tank 90 feet high in lat. 9°03′46″ N., and long. 79°39′12″ W.; the tank sides are painted, checkerboard style, in international orange and black colors. At the extreme top of the tank at the center are two fixed red 60-watt obstacle lights.

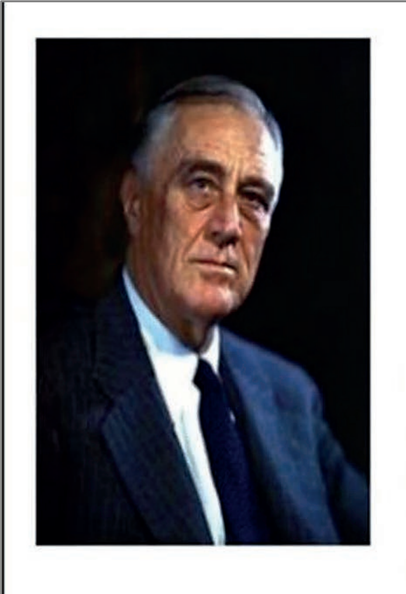
This supersedes Notice to Mariners No. 198, November 1, 1935 and No. 121, August 16, 1935.

C. S. RIDLEY,
Acting Governor.

1935

Antigua reservación naval en el lado este del Canal. Incluía el equipo trasladado al desactivar la estación (en abandono) de Radio Darién (1914-1935). Parte del centro comunicaciones de Balboa (1908-1999).

Así se veía hace décadas atrás...



FRANKLIN D. ROOSEVELT

32nd President of the United States: 1933 - 1945

Executive Order 7399—Reservation of Naval Radio Station, Summit, Canal Zone

June 23, 1936

Las fotos a continuación fueron captadas el 23 de marzo de 2022. Desafortunadamente, es lo poco que queda del complejo de estructuras originales que incluían edificios, casas de un proyecto habitacional reubicado en 1952, antenas y, equipos de comunicación y logística de soporte.

















GRÚA FLOTANTE TITÁN (1941-2022) EN LA DIVISIÓN DE DRAGADO DE GAMBOA (2022))



Patrimonio Histórico del Canal de Panamá: Grúa Flotante Titán (1941-2022)

1941

Una de las cuatro grúas hermanas cuya construcción inicia en 1938 para la armada del III Reich (Alemania) a un costo estimado de $3.5M; unos $70.7M hoy en día. Inicia operaciones en 1941.



1942

La Schwimmkran No. 1; grúa flotante en alemán (nombre original), opera en el Mar Báltico, asistiendo a submarinos alemanes. Por esos años, destaca por su potencia e ingeniería de avanzada .



1945

Al finalizar la guerra, los aliados se apropian de las grúas nazis. La YD-171 es rebautizada 'Herman, el alemán'. Luego desarmada y transportada a los Estados Unidos donde opera de 1946 hasta 1994.



1994

Tras el cierre del astillero naval en Long Beach el gobierno de los Estados Unidos vende a 'Herman, el alemán' a la Comisión del Canal de Panamá (ACP hoy en día), que quería reemplazar sus históricas grúas flotantes Ajax y Hércules (una sigue viva).



1996

La gigantesca grúa flotante, rebautizada Titán, llega a Panamá en la cubierta del Sea Swan, buque carguero semi sumergible que la transportó desde Long Beach, California, a las cercanías de la Isla de Taboga en la Bahía de Panamá.



1996

Debido a su tamaño, su punto mas alto es reducido antes de arribar al Canal para darle suficiente espacio para su paso bajo el Puente de las Américas durante la marea más baja del año. Logra su tránsito con solo unos pies de holgura.



2021

Llega al final de su vida útil, de acuerdo a la nueva administración de la ACP, se subasta al mejor precio, es decir, remate. Hay varias ofertas, unas por su valor histórico y otras por su valor metálico. Gana la oferta de destrucción total.

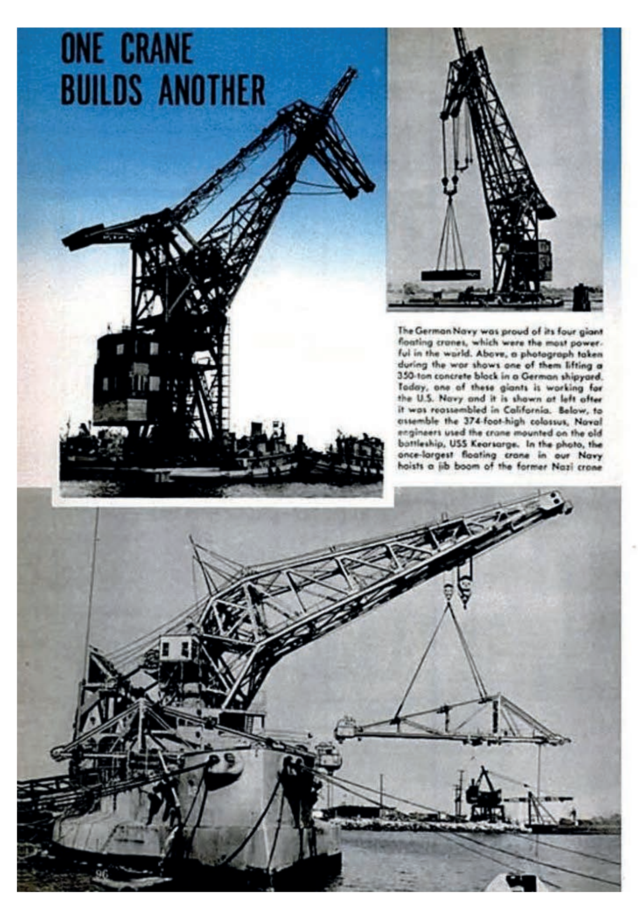


2022

Los funcionarios que se oponen a la destrucción de este patrimonio son investigados y obligados a negar cualquier nexo sobre el tema. Unos mienten al ser interrogados, otros se les obliga a renunciar.



La garantía del éxito en la preservación de la memoria histórica del Canal de Panamá radica en lograr el compromiso de la organización completa del Canal de preservar y compartir los datos históricos, objetos, hallazgos y documentación que sirvan para nutrir esa memoria. Para lograr este objetivo, se hace imperativo institucionalizar el esfuerzo de documentación histórica por medio de directrices y políticas que rijan su desarrollo.



ONE CRANE BUILDS ANOTHER

The German Navy was proud of its four giant floating cranes, which were the most powerful in the world. Above, a photograph taken during the war shows one of them lifting a 350-ton concrete block in a German shipyard. Today, one of these giants is working for the U.S. Navy and it is shown at left after it was reassembled in California. Below, to assemble the 374-foot-high colossus, Naval engineers used the crane mounted on the old battleship, USS Kearsarge. In the photo, the once-largest floating crane in our Navy hoists a jib boom of the former Nazi crane

One Crane Builds Another

IT TAKES a big crane to assemble a bigger one and that's the way the Navy put together the giant floating crane it received from Germany as a war prize. Towering 374 feet in the air, as high as a 30-story building, the 5000-ton colossus is one of four such cranes built by the Germans early in the war. Only one other is now in existence and it is in England. The others were bombed into uselessness.

Known as the YD 171, the giant crane was partially dismantled at Bremerhaven and towed across the Atlantic, through the Panama Canal, scraping through with only three inches clearance on each side, and up to the Long Beach Naval Shipyard.

Parts were made to replace those damaged during the war and the crane was assembled by means of another huge floating crane, mounted on the former battleship USS Kearsarge.

So that the Kearsarge could lift the heavy boom sections to the tremendous heights required, the pontoon of the YD 171 was placed in a battleship dry dock. The Kearsarge was moored alongside and, as the water was pumped from the dock, the pontoon dropped to a level 50 feet below the Kearsarge.

The YD 171 floats on a steel pontoon 204 feet long, 108 feet wide and 17 feet deep, with a mean draft of slightly over 10 feet. Quarters for a crew of 28 are provided inside the pontoon. Self-propelled, the crane makes eight knots and is sufficiently seaworthy for coastal voyages.

Directional propulsion is provided by three Voith-Schneider propellers, two in the stern and one in the bow. Each propeller has six vertical blades and revolves horizontally like a massive egg beater. By adjusting the pitch of the blades, the pilot can move the pontoon in any direction.

Capable of lifting 350 metric tons or more than 750,000 pounds, the crane generates its own electricity with three 900-horsepower Diesels. It is counterbalanced by a 400-ton block under the machinery house and a 200-ton counterweight mounted on the end of the boom.

The entire crane stands on a 60-foot circular base that revolves on a single roller bearing at the center. About eight miles of steel cable, some almost two inches in diameter, are used in the crane. The control cab is about 90 feet above the deck.

With this floating Goliath, the Navy can pick tugs right out of the water as easily as though they were toy sailboats. Flying the American flag, the YD 171, a former enemy, is now on our side, helping maintain the world's most powerful fleet.



Even Baby Can Have a Swivel Chair

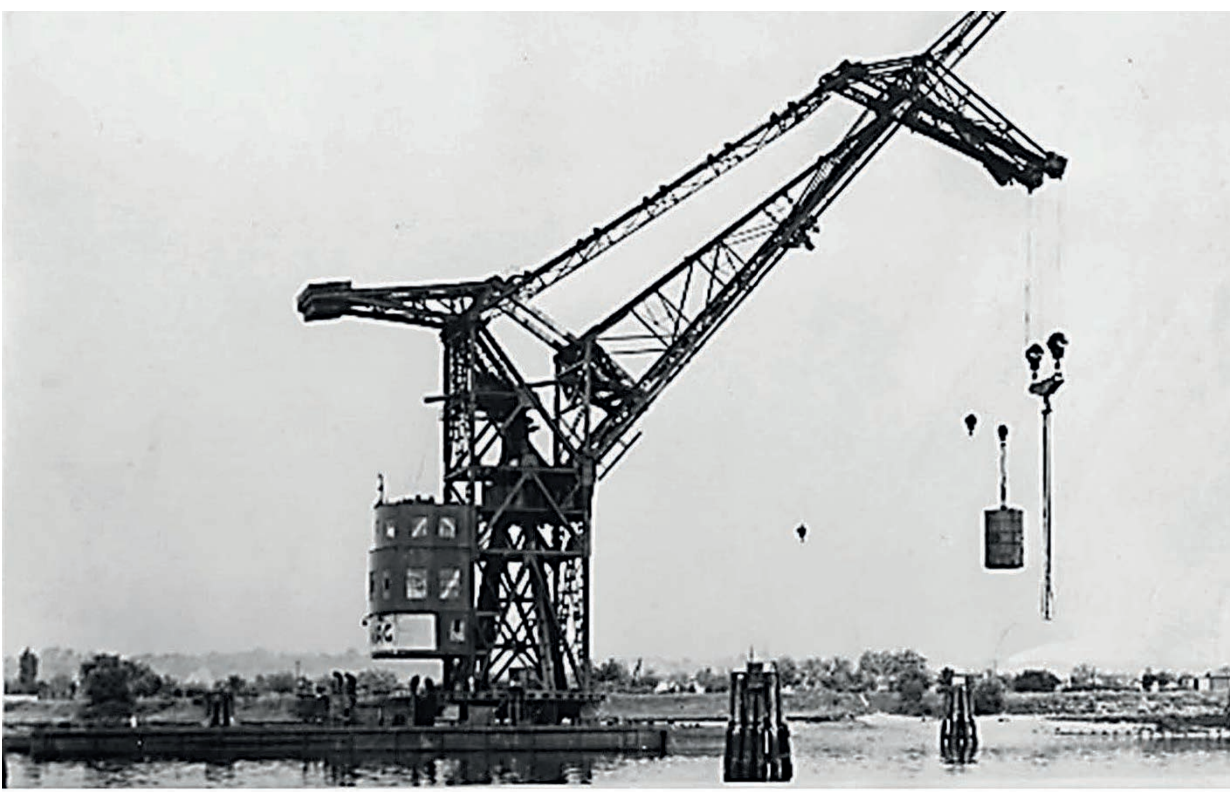
Baby has his own swivel seat and can turn in any direction in a circular baby chair that cannot be overturned. Rubber-covered guard rails keep toys and dishes from sliding to the floor and also protect walls and other furniture. Mounted on four roller-bearing casters, the chair can be pulled from room to room. When the seat is removed, a matching disk converts the chair into a table for the children.

"Bean Ball" Shields for Ball Players

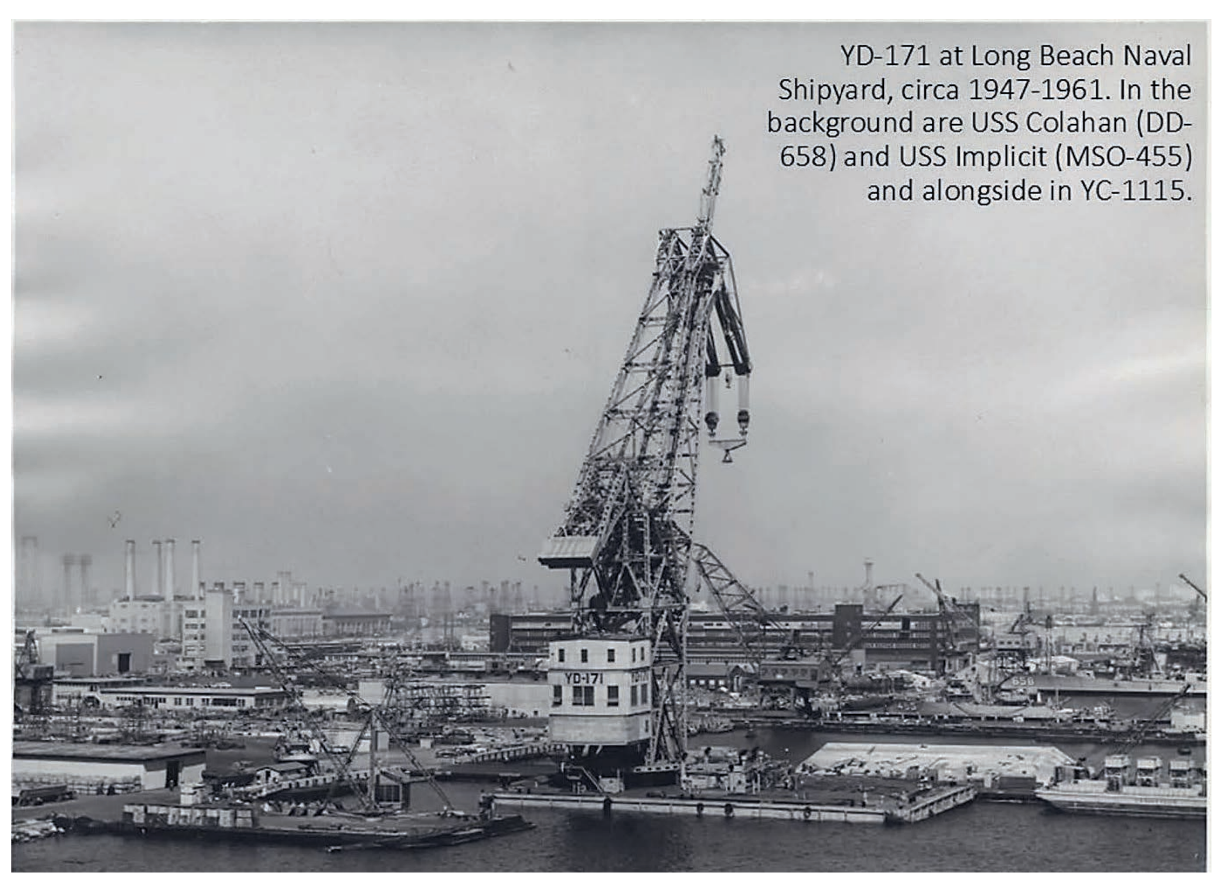
To protect batters from "bean balls," a new baseball cap has removable fiber shields that are placed behind the lining. Held in place by the sweat band, the shields can be worn on either side or on the front or back. Quickly removed, they can be taken out when the player is not at bat.



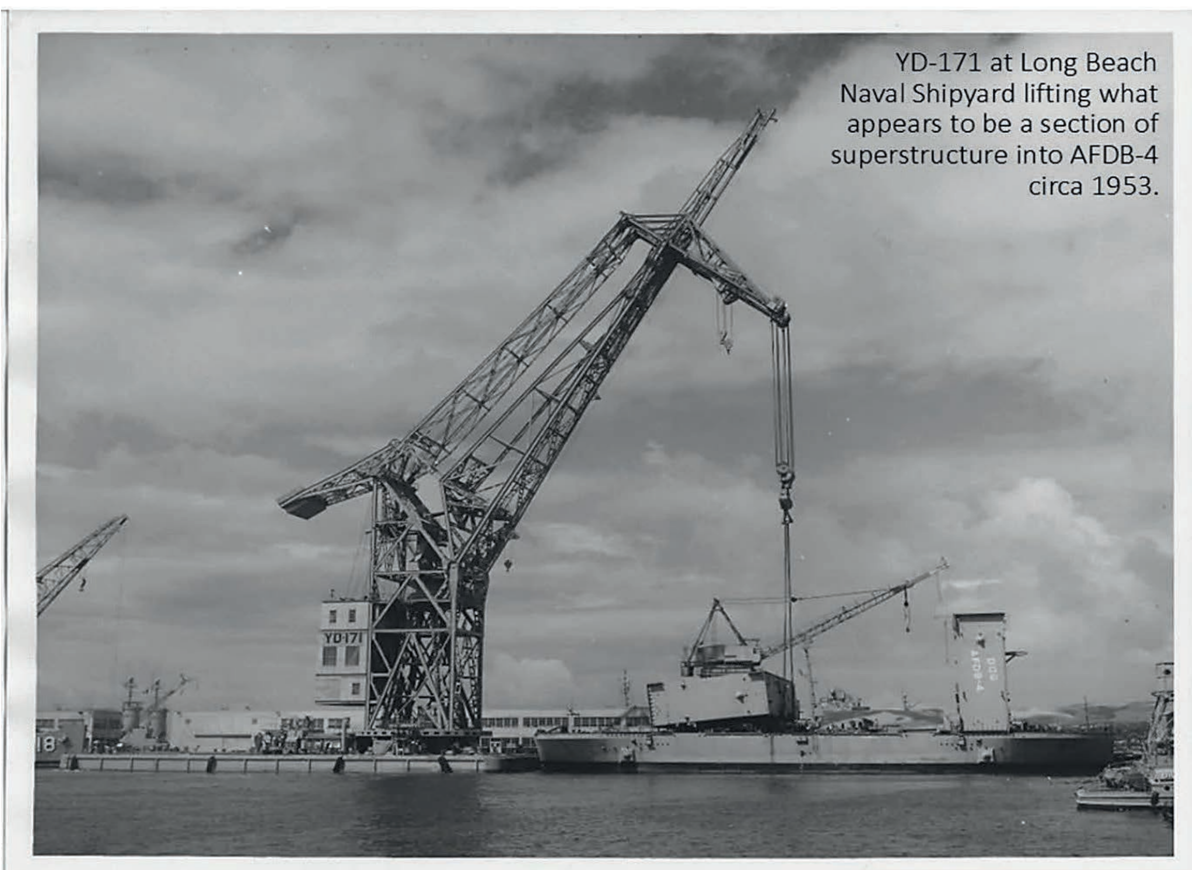
SEPTEMBER 1948 97



YD-171 at Long Beach Naval Shipyard, circa 1947-1961



YD-171 at Long Beach Naval Shipyard, circa 1947-1961. In the background are USS Colahan (DD-658) and USS Implicit (MSO-455) and alongside in YC-1115.



YD-171 at Long Beach Naval Shipyard lifting what appears to be a section of superstructure into AFDB-4 circa 1953.



YD-171 at Long Beach Naval Shipyard, circa 1947-1994



Ex-YD-171 being transported to Panama aboard a heavy-lift ship, in 1996.



Esclusas de Miraflores (15 de diciembre de 2002)



División de Dragado (20 de enero de 2006)



División de Dragado (28 de agosto de 2008)


División de Dragado (10 de junio de 2010)



División de Dragado (18 de abril de 2011)



División de Dragado (23 de mayo de 2017)

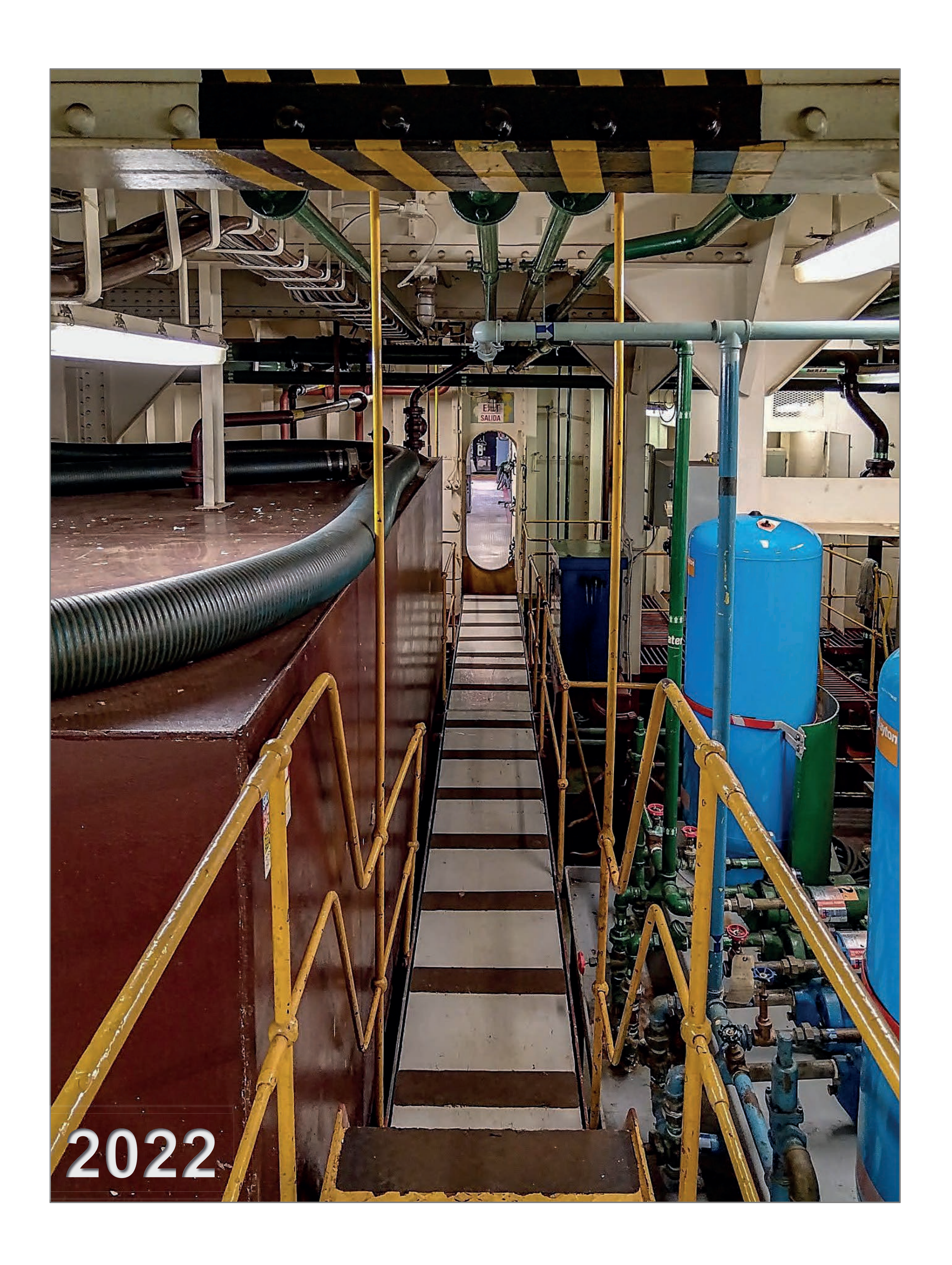


División de Dragado (2021)



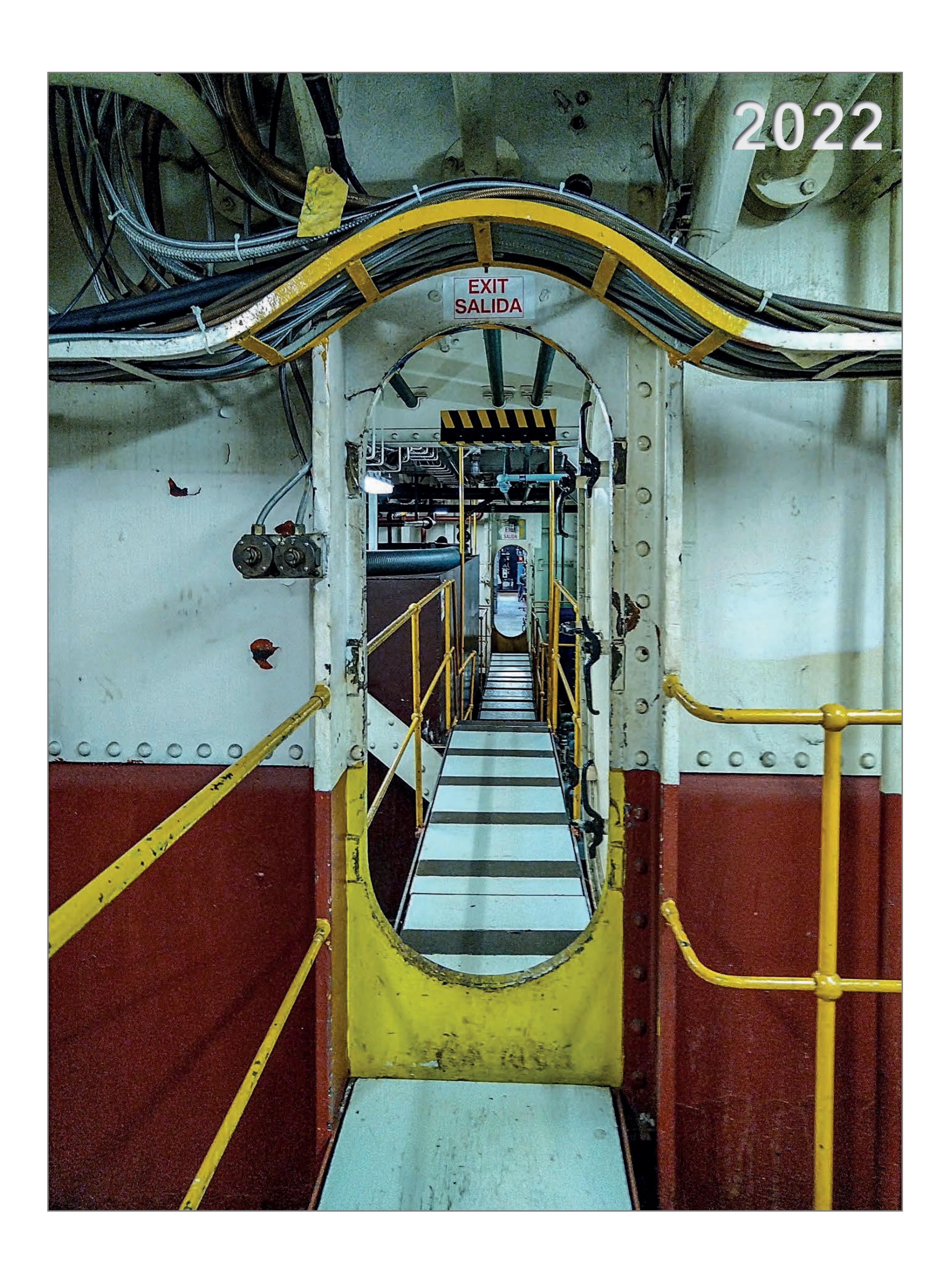
2022

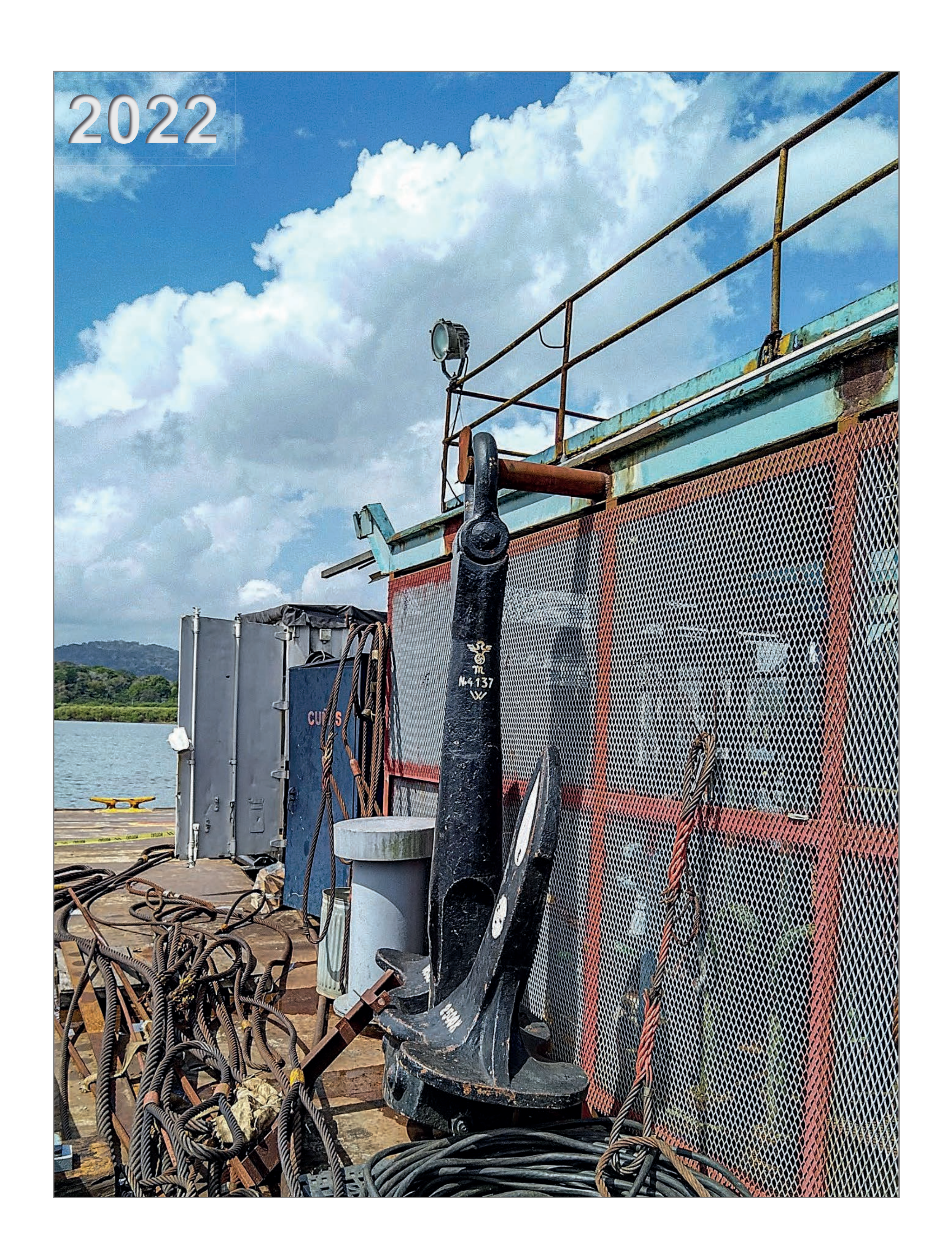

2022

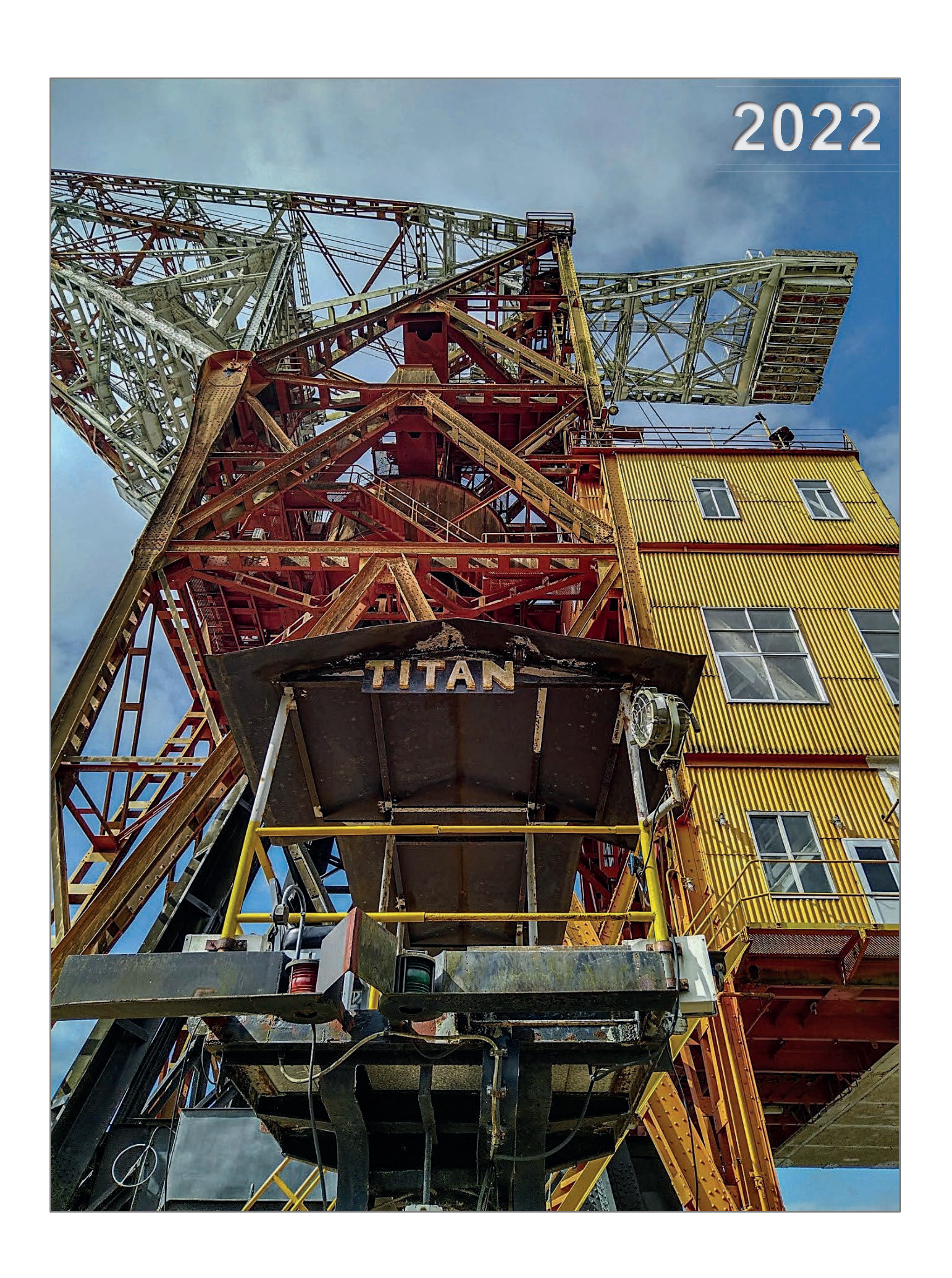

2022
EXIT
SALIDA


2022


2022


2022
EXIT
SALIDA


2022
№ 4137


2022
TITAN

Anexo

1. Biografía y logros de Akira Aoyama (Ingeniero civil a cargo del diseño de la Planta Potabilizadora de Agua Clara)
2. Monumentos en el Área del Canal (Revista Épocas - Febrero 1986)

Biografía y logros de Akira Aoyama[34]

Ingeniero civil japonés que trabajó como uno de los agrimensores líderes durante la construcción del canal de Panamá entre 1904 y 1911, específicamente en las zonas del río Chagres y el lago Gatún. Se convirtió en el único trabajador residente japonés que colaboró directamente en la construcción del canal interoceánico.

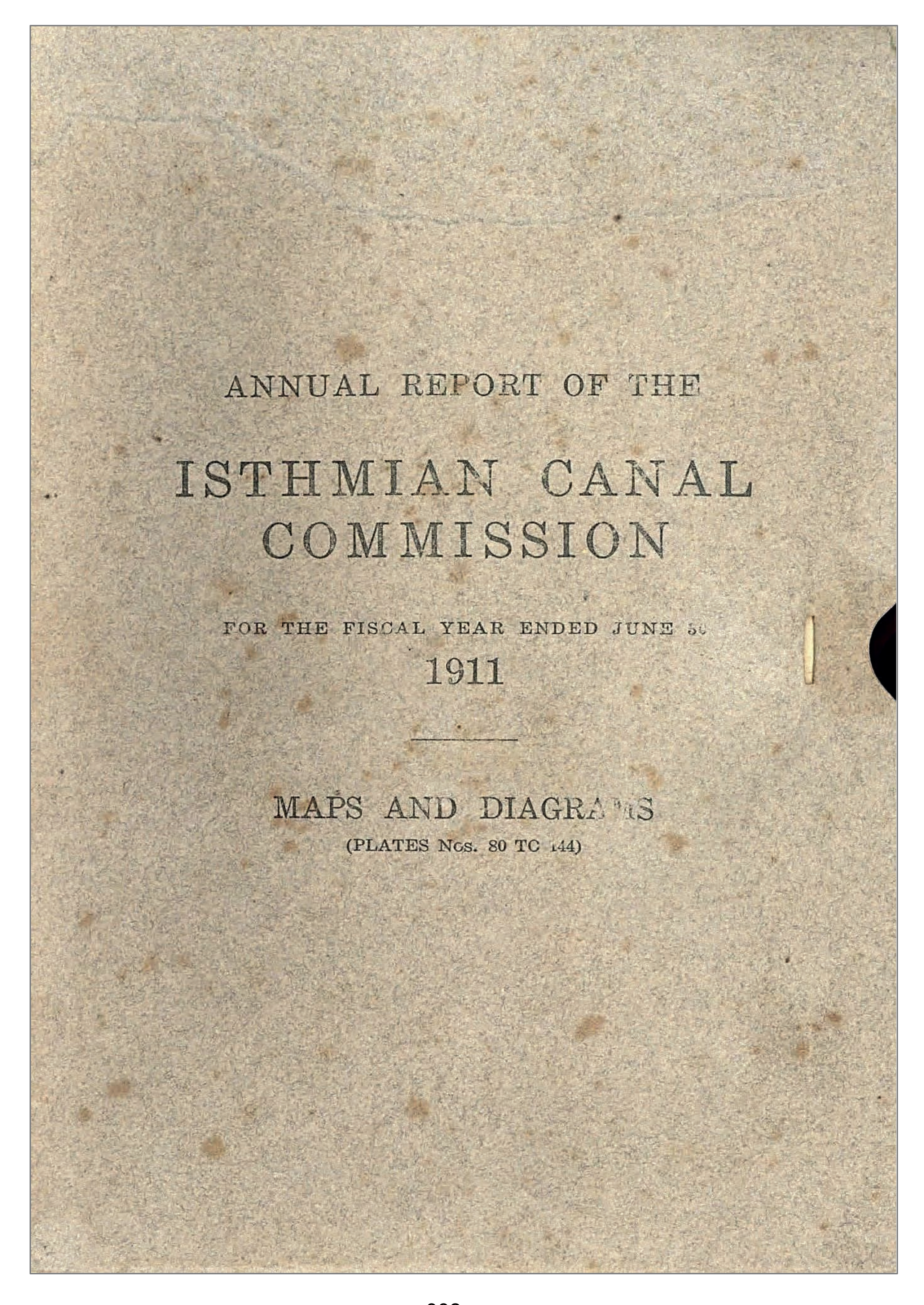
Con su experiencia en Panamá, volvió a Japón a dirigir proyectos de construcción de canales de drenaje en los ríos Arakawa y Shinano, y el gobierno japonés le encomendó trabajos de mantenimiento multipropósito en varios ríos del país. En 1935 fue presidente de la Sociedad Japonesa de Ingenieros Civiles y tras su retiro como ingeniero en 1946 siguió asesorando en trabajos de calidad del agua en Tokio (Japón).

Akira Aoyama



Información personal	
Nombre en japonés	青山士
Nacimiento	23 de septiembre de 1878 Nakaizumi (Japón)
Fallecimiento	21 de marzo de 1963 (84 años) Iwata (Japón)
Nacionalidad	Japonesa
Educación	
Educado en	Universidad de Tokio
Información profesional	
Ocupación	Ingeniero civil y burócrata
Empleador	Isthmian Canal Commission (1904-1912) Home Ministry (1912-1936)
Distinciones	Orden del Tesoro Sagrado, 4ta clase Order of the Sacred Treasure, 3rd class

34 https://es.wikipedia.org/wiki/Akira_Aoyama



ANNUAL REPORT OF THE

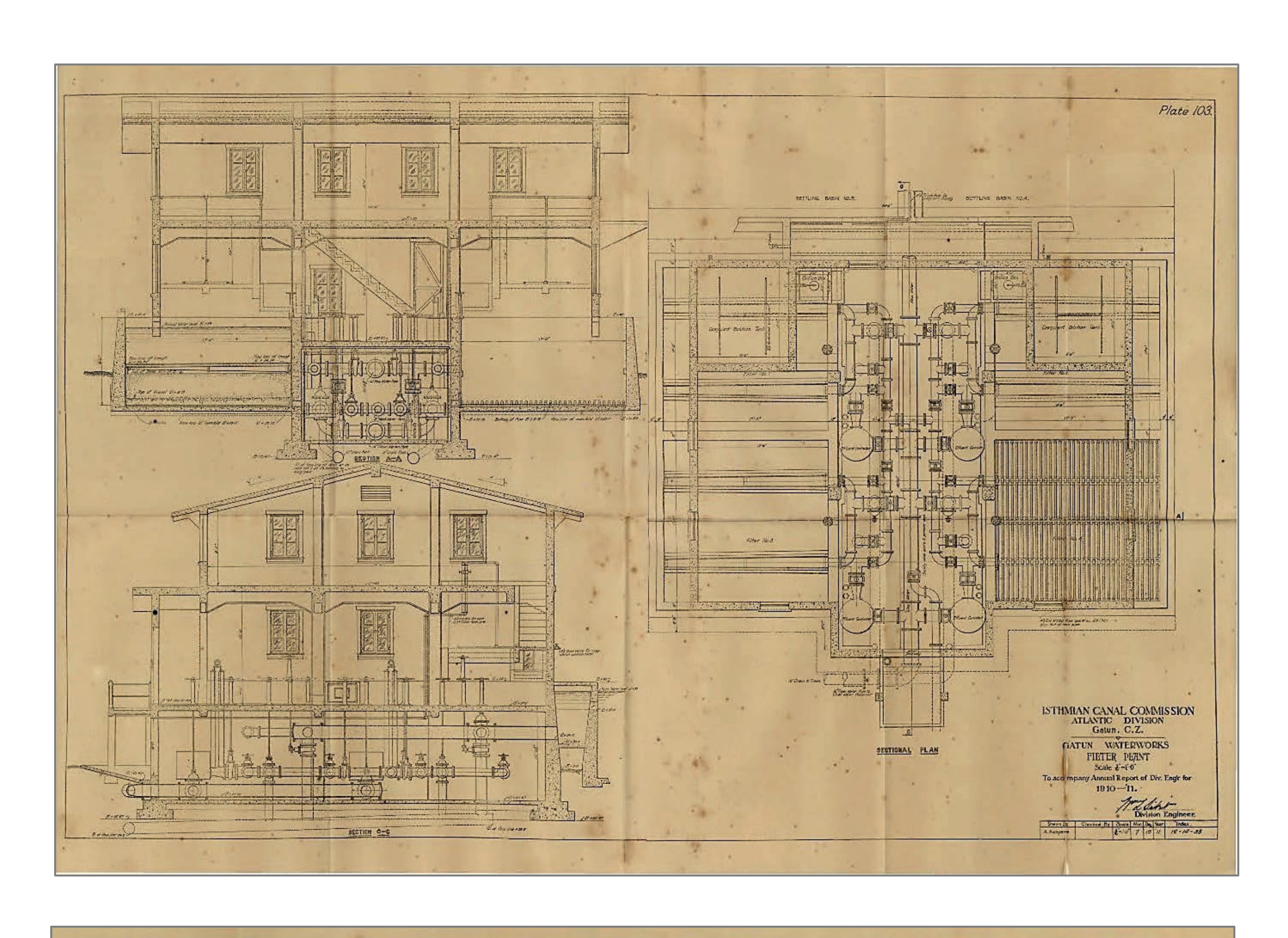
ISTHMIAN CANAL COMMISSION

FOR THE FISCAL YEAR ENDED JUNE 30

1911

MAPS AND DIAGRAMS

(PLATES Nos. 80 TO 144)



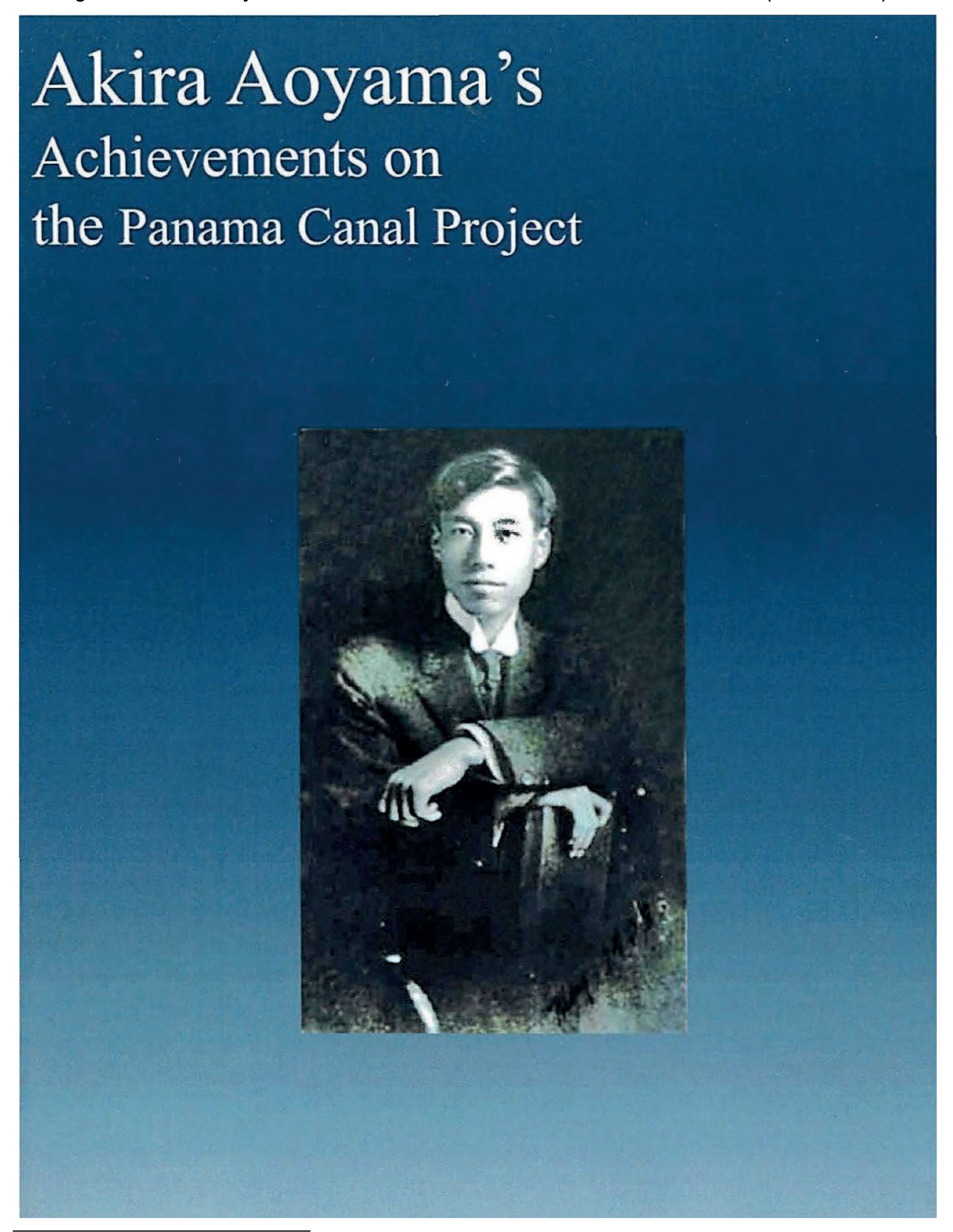
ISTHMIAN CANAL COMMISSION
ATLANTIC DIVISION
Gatun. C.Z.

GATUN WATERWORKS
FILTER PLANT
Scale 3/16"=1'-0"
To accompany Annual Report of Div. Eng'r for
1910—'11.

Division Engineer.

Drawn By	Checked By	Scale	Mon.	Day	Year	Index.
A. Awoyama		3/16"=1'-0"	7	15	'11.	12-14-33

Logros de Akira Aoyama en la Comisión del Canal Ístmico de Panamá (1904-1911)[35]



[35] Biblioteca Presidente Roberto F. Chiari - Canal de Panamá.

Akira Aoyama



The only Japanese civil engineer to join the Panama Canal Project
Japan's 5th Vice Minister of the Interior
The 23rd President of the JSCE
Mr. Aoyama's mantra was

Similarly to a phrase originally coined by John Frederick, William Herschel, and later updated by Mr. Baden-Powell.

"Do your best to leave the world better than you found it"

Early life and education

1878 Born in Iwata, Shizuoka, Japan
1899 Entered Tokyo Imperial University and majored in Civil Engineering
1903 Graduated with highest honors
While attending college, Akira became keenly aware of the Panama Canal Project and made it his ambition to become an integral part of the Project.

In the United States (1903~1904)

1903 Sailed from Yokohama for the USA on the passenger liner "Ryojun Maru"
The delay in the canal treaty negotiations between the U.S. and Columbian governments forced Akira to remain in Seattle for many agonizing months after his arrival in the U.S.
1904 He finally left Seattle for New York to visit Dr. William H. Burr (Prof. of Civil Engineering Faculty of Columbia University as well as a member of the Isthmian Canal Commission (ICC))
In New York, with the assistance of Professor Burr's industry connections, Akira was introduced to a railway construction company where he worked for three months. Although working without pay, Akira wisely utilized the opportunity to master the fundamentals of survey, a skill he would take with him to the canal project.

In Panama (1904-11)

1904 The construction of the Panama Canal was restarted by the U.S.
Through the efforts of Professor Burr, Akira was able to gain employment as a rodman and finally joined the Panama Canal Construction Project

C.1

1905 Promoted to Assistant Surveyor



Akira Aoyama with gang

SERVICE RECORD CARD

Name: Aroyama, Akira

Nativity: Japan

Department: Engineering

Division: Resident Engineer

Where located: Bohio

Entered on duty: June 1, '04

Date of appointment: June 1, '04

Position: Rodman, Class 1

Age: 26

Place of birth: Japan

Home address: Care/ J.M.E.Mission, 17 Concord St., Brooklyn, N.Y.

CHANGES IN STATUS

Date	Salary	Position	Department	Division	Where located	Authority
Mch. 1, 05	$83.33 mo	Rodman				
June 1, 05	$110.	Levelman				
Nov 1, 05				Chagres		
July 1, 06	$125. mo	Levelman				
Aug 1, 06				Cristobal		
April 1, 07	$150	Transitman				
				Chief Engr.		
Oct 15, 08				Chief Engr.		

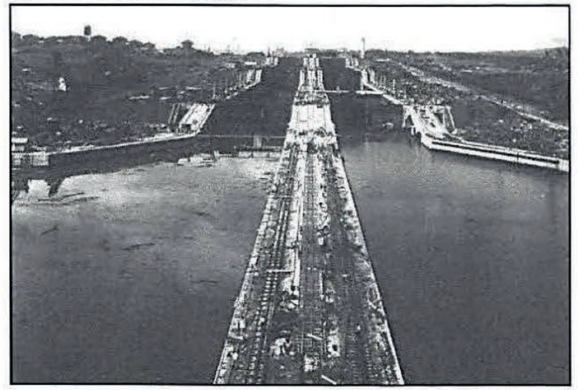
Akira's Service Record Card

1907 Promoted and transferred to Cristobal job site. Akira's proficiency as a surveyor provided him the opportunity to become engaged in numerous surveying assignments.



Drafting Force Division Engineering Office of Atlantic

1910 Promoted to Design Engineer and later to Deputy Chief Engineer at Gatun Locks, Atlantic Division, Akira was placed in charge of designing the central approach wall on the lower side of Gatun Locks.



Central Approach Wall under construction



Gatun Locks under construction



Akira Aoyama in Panama at the office

Akira managed the survey team at the Gatun Dam and drafted a spillway for the Gatun Dam.

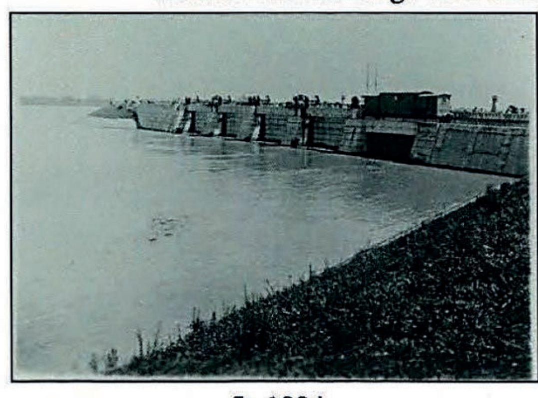
1911 After so many years of being away from his homeland, Akira decided it was time to return to Japan.

After Panama

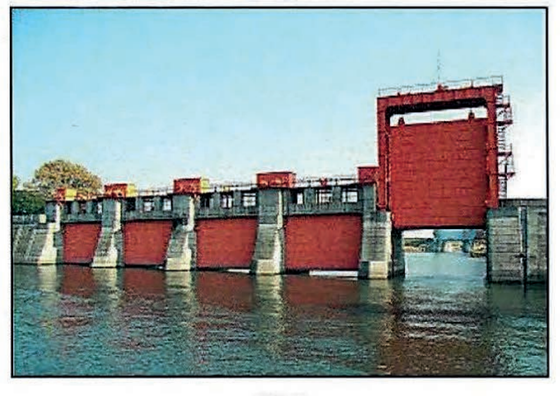
1912 Akira joined the Ministry of Interior and was placed in charge of the Arakawa Flood Discharging Channel construction in Tokyo, Japan.

1924 Arakawa Flood Discharging Channel was completed

Iwabuchi Flood Surge Gate on Arakawa Flood Discharging Channel



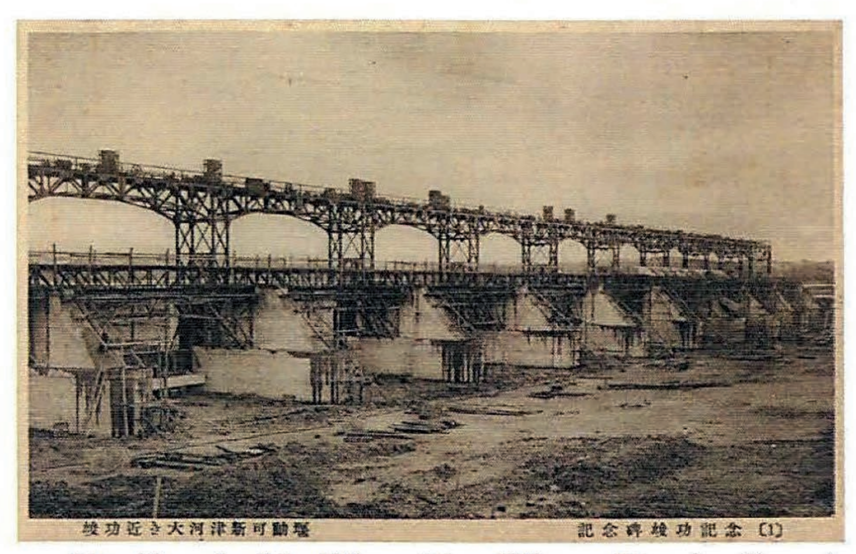
In 1924



now

Akira's Panama Canal experiences and developed knowledge allowed him to introduce many innovative ideas, devices and technologies, which resulted in the extremely successful dredging of the river bed to a depth of 20 meters.

1927 As Director of the Regional Development Bureau, Akira became actively involved with the Shinano River Ohkouzu Diversion Channel Repair Project in Niigata, Japan.



Movable weir of the Shinano River Ohkouzu Diversion Channel

1931 The Shinano River Ohkouzu Diversion Channel project was completed.



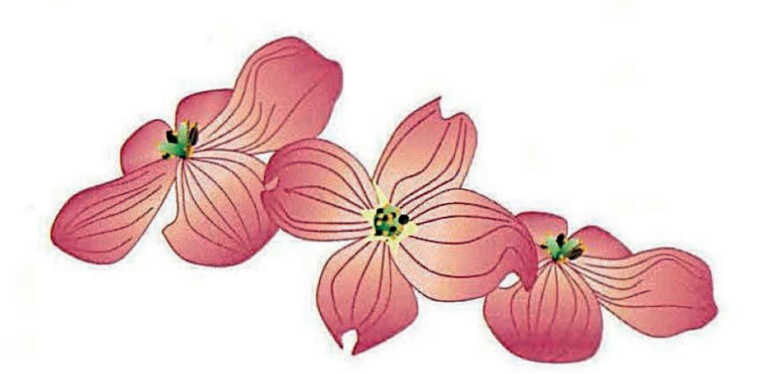
Aerial View of the Shinano River Ohkouzu Diversion Channel

1934 Appointed as the 5th Vice Minister of Interior

1935 Selected as the 23rd President of Japan Society of Civil Engineers

1936 Retired from the Ministry of Interior

1963 Passed away at the age of 84



Flowering dogwood

~ Akira's favorite flower for all of his life ~

Behind his motivation in participating in the Panama Canal Project, it must be noted that Akira had two influential figures that inspired him to not only become a Christian, but to also be of service to his country and to God throughout his lifetime as a civil engineer: Becoming a Christian during the time period in which he did, was not only something unusual, but also very uncommon in society. His strong belief in Christianity was the compelling reason for his decision to depart for Panama immediately following his graduation from the University. He was sincere, humble and dedicated to his work. He never behaved arrogantly or boasted about his achievements and contribution to the Panama Canal Project or his tremendous success in the Arakawa River Improvement Construction.

Akira's dream and goal to participate in the Panama Canal Project was fueled by his strong belief throughout his college years that the Project would establish a milestone in history and provide significant benefits to humanity. It was this conviction to his belief that allowed him to devote himself to the construction effort at the Project, overcome the effects of twice contracting malaria and barely escaping certain death while surveying in the Bohio jungle.

Akira, the only Japanese civil engineer on the Project, began his career as a field survey team member with the unenviable responsibility of providing daily reports to a senior engineer of another ethnicity. Day after day, masked in a mosquito net, Akira trudged through the jungle terrain measuring the area of the planned canal route, as well as performing accurate surveys of the geological formations. He patiently and diligently performed his assignments, all the while honing his skills and increasing his knowledge, which provided him with many opportunities for accelerated advancement. He was promoted to a level-man, transit man, draftsman, design engineer, and then to deputy chief engineer at Gatun Locks, Atlantic Division. His many responsibilities included the design and construction of the approach wall at Gatun Locks, the survey of the Gatun Dam and the drafting of a design of a spillway for the Gatun Dam.

Sometime in 1943, the Imperial Japanese Navy asked Akira his opinion about the possibility of developing a plan to destroy the canal locks. Akira's response was that he had only the knowledge of how to build the Panama Canal, not destroy it. Further efforts to obtain his cooperation were not successful.

Leaders Who Influenced Akira Aoyama



Theodore Roosevelt (1858-1919)

The 26th President of the United States

Roosevelt was so inspired by a book titled "Bushido" that he bought 60 copies to distribute to family members and friends.

Roosevelt visited the Project site in 1906 while the Japanese "Samurai" Akira devoted himself to his work with the spirit of Bushido.

"Bushido: the Soul of Japan" is the book written by Nitobe Inazo in 1900.

John F. Stevens (1853-1943)

As the 2nd Chief Engineer from June 1905 to April 1907, John F. Stevens established the basis for successful completion of the Panama Canal Construction. A decisive, strong leader, Stevens recognized that before work could start on the canal, workers would require adequate housing, water and sewers, safety and recreation. Living conditions were drastically improved compared to other projects at that time and were maintained for the duration of the project.



George W. Goethals (1858-1928)

Colonel George W. Goethals became the third and final Chief Engineer of the Panama Canal Project in 1907, and also became the first governor of the Panama Canal. Goethals reorganized canal operation into three geographical divisions: Atlantic, Central, and Pacific, and managed one of the most difficult parts: excavating the Culebra Cut.



William C. Gorgas(1854-1920)

Colonel William C. Gorgas was appointed the Chief Medical officer of the Project in 1904.

Dr. Gorgas implemented a range of measures to minimize the spread of deadly diseases, particularly malaria and yellow fever.

Akira contracted malaria and was fortunately examined by Dr. Gorgas. Dr. Gorgas was recognized as one of the men who contributed most to the opening of the canal.



Members of Atlantic Division of the Panama Canal Construction



Akira Aoyama



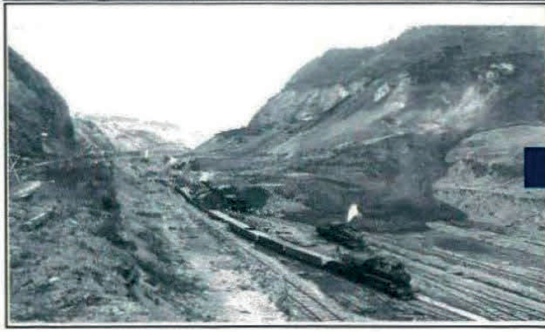
William L. Sibert

(Head of the Atlantic Div.)

Technologies Learned at the Panama Canal

J. F. Stevens recognized in the very early stages of the canal construction, the primary constraint dealt with the lack of adequate railroad engineering, which, if to be successfully addressed, must include devising a rail-based system for disposing of the soil generated from the excavations. Akira applied a similar approach to his Construction in Japan.

Soil Disposal System with railroad engineering

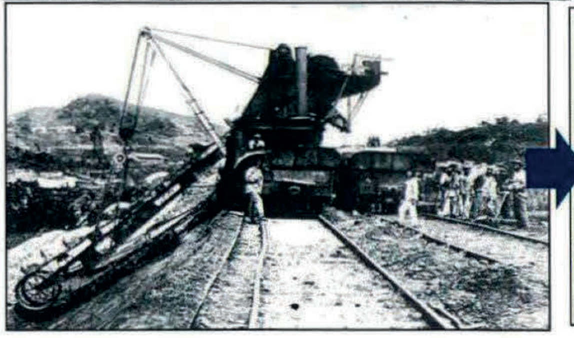


Panama



Japan

Excavation System with railroad engineering

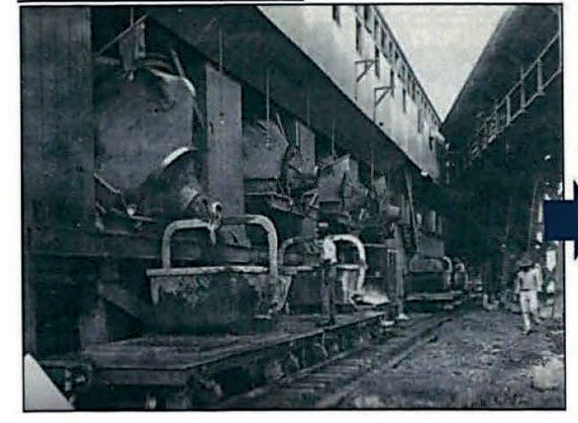




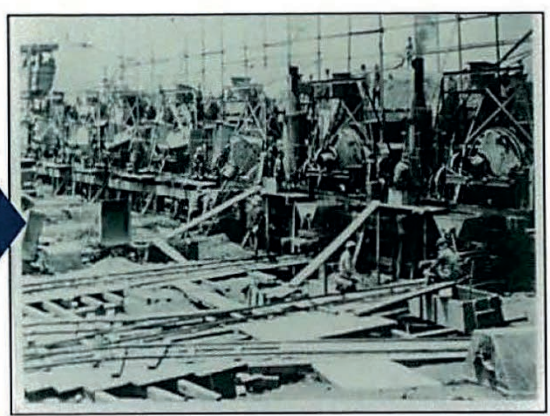
Panama

Japan

Concrete Mixing Plant



Panama



Japan

Cast-in-place Concrete

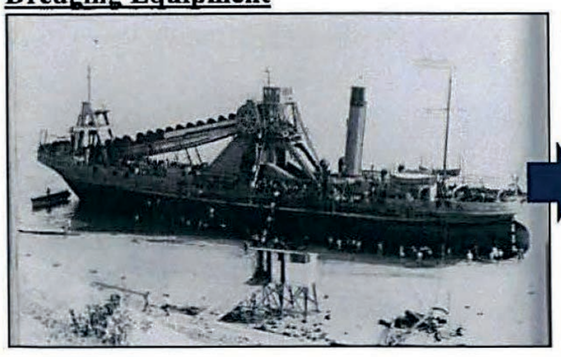


Panama

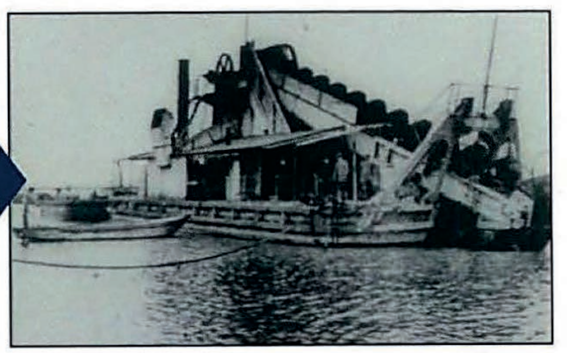


Japan

Dredging Equipment



Panama



Japan

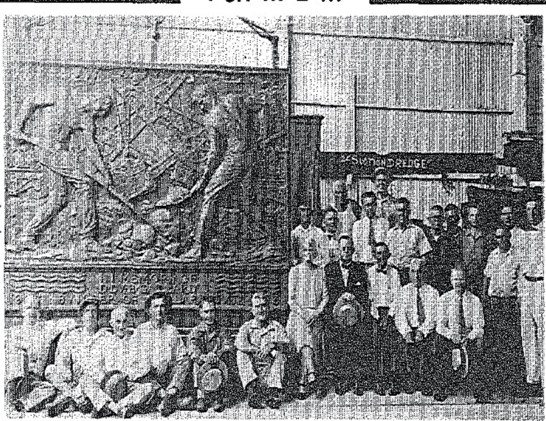
Monumentos en el Area del Canal

Por: M L M

En el área del Canal se encuentran un conjunto de monumentos que conmemoran hechos de la historia de la gran obra interoceánica. Unos dedicados a quienes la hicieron posible: David Du Bose Gaillard, William Crawford Gorgas, George Goethals, Ferdinand de Lesseps, Theodore Roosevelt, Maurice Thatcher, John F. Stevens y los Trabajadores Antillanos. Otros rinden homenaje a personas y hechos de algún modo vinculados a la gran empresa.
En orden cronológico, el primero de los monumentos está dedicado a

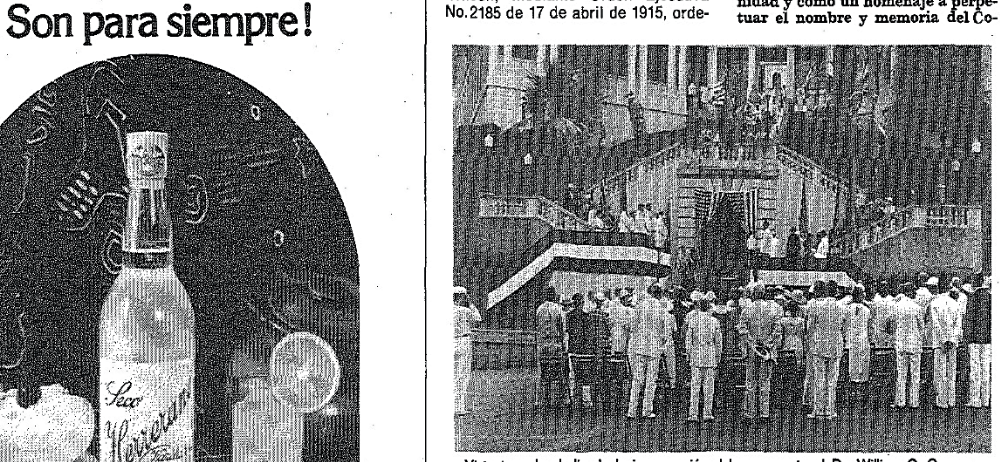
DAVID DU BOSE GAILLARD.

El insigne ingeniero, nació el 4 de septiembre de 1859, en Fulton Sumter County, Carolina del Sur, Estados Unidos de América, hijo de Samuel Isaac y Susan Richardson (Dubose) Gaillard. En 1884, se graduó de ingeniero en la prestigiosa Academia Militar de West Poi·. En 1892 fue designado miembro de la Comisión Internacional de Límites encargada de revisar la línea fronteriza entre Méjico y los Estados Unidos, posición que ocupó hasta 1894.
En marzo de 1907 comenzó a laborar con la Comisión del Canal Istmico. Unos meses más tarde fue nombrado Jefe del Departamento de Excavación y Dragado, posición que desempeñó hasta el 1o. de julio de 1908, cuando fue designado Ingeniero de Division, encargado, de la Sección Central, que incluía la excavación del Corte Culebra, posiblemente la parte más difícil de la construcción del Canal. Estuvo a cargo de las excavaciones en Culebra, casi hasta su etapa final, viéndose obligado a abandonar el puesto por motivos de salud. El 26 de julio de 1913, estando en su residencia de la Zona del Canal sufrió un colapso, siendo trasladado de inmediato al hospital John Hopkins, en Baltimore, donde murió el 5 de diciembre de 1913, víctima de un tumor cerebral. Al día siguiente el Congreso pasó una resolución lamentando su muerte y exaltando los valiosos servicios prestados a la nación y en especial al Canal de Panamá.
Para honrar la memoria de este gran ingeniero, el Presidente Woodrow Wilson, mediante Orden Ejecutiva No.2185 de 17 de abril de 1915, ordenó cambiar el nombre del Corte Culebra a "CORTE GAILLARD". Por orden del Secretario de Guerra, la guarnición militar de Culebra fue bautizada "CAMPO GAILLARD".
El 4 de febrero de 1928, fue develada en Contractor Hill una placa en bronce de 9 x 11 pies, donada por la familia Gaillard y por la Asociación de Ingenieros Voluntarios de los Estados Unidos, compuesta por los miembros del regimiento que comandó el Coronel Gaillard durante la guerra con España. El diseño de la hermosa placa fue obra de James E. Fraser y simboliza la extracción de las últimas paladas de tierra del corte.
En 1954, durante los trabajos llevados a cabo en Contractor Hill el monumento fue desmontado, siendo nuevamente colocado en 1956.
Otro de los actos dedicados á honrar la memoria de Gaillard fue la designación de una de las principales vías del área del Canal con el nombre de "Avenida Gaillard". El 1 de Octubre de 1985, el Consejo Municipal de Panamá mediante el acuerdo no.28 le cambió el nombre a la Avenida Gaillard por "Avenida Omar Torrijos Herrera".


En esta interesante gráfica, tomada el 22 de enero de 1928, se aprecia el grandioso monumento a la memoria de Gaillard. Aparece la señora Katherine Ross Davis, esposa del insigne ingeniero, en compañía de trabajadores de la División de Dragado.

MONUMENTO A WILLIAM CRAWFORD GORGAS

En junio de 1904 llegó a Panamá el Dr. William C. Gorgas, venía de librar a la Habana de la terrible fiebre amarilla. En Panamá la batalla fue dura pero victoriosa. Para finales de 1905 había erradicado del área del Canal, la cruel enfermedad. Su siguiente objetivo fue la "Malaria" la que logró controlar en poco tiempo. Hizo habitable un lugar altamente insalubre, la Zona del Canal de Panamá.
En 1914, debido a sus grandes triunfos fue nombrado Cirujano General del Ejército de los Estados Unidos. Murió el 4 de julio de 1920 en Londres, Inglaterra.
A raíz de su muerte, el Congreso, pasó el 24 de marzo de 1928 una Resolución Conjunta que decía:
"En reconocimiento a sus distinguidos servicios prestados a la humanidad y como un homenaje a perpetuar el nombre y memoria del Co-

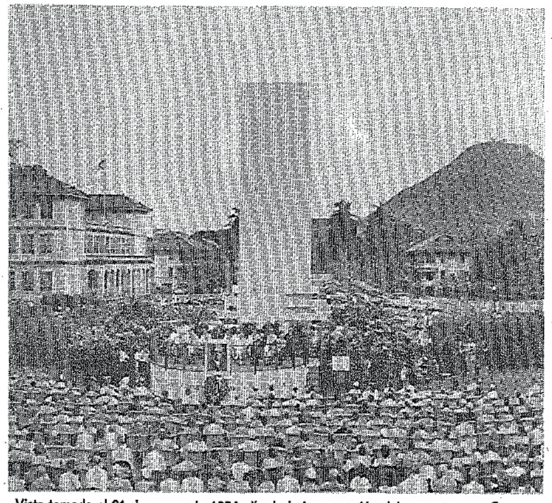

Vista tomada el día de la inauguración del monumento al Dr. William C. Gorgas.

Epocas
SEGUNDA ERA
Mario Lewis Morgan
Director
Apartado 6972, Zona 5

mandante General William Crawford Gorgas, el Hospital Gubernamental hasta ahora conocido como el Hospital Ancón deberá ser de aquí en adelante designado en los registros públicos como el Hospital Gorgas."
Otro de los actos dedicados a este genio de la medicina fue la colocación, por iniciativa de los Veteranos de la Guerra contra España de una placa de bronce al pie de la doble escalera que conduce desde la Calle Gorgas a los terrenos del hospital. El acto tuvo lugar el 22 de febrero de 1936. La invocación estuvo a cargo del Mayor E.L. Trett, capellán del Ejército de los Estados Unidos. El orador principal fue Rice W. Means, Comandante en Jefe de las tropas norteamericanas en la Guerra con España. La placa fue develada por Marie Seagram Clark, única enfermera veterana de dicha guerra, residente en el Istmo.

MONUMENTO A GEORGE W. GOETHALS

El 31 de marzo de 1954, fue inaugurado el monumento a GEORGE W. GOETHALS, considerado el 'Héroe del Canal de Panamá". Los esfuerzos para erigirlo se iniciaron en mayo de 1928, tres meses después de su muerte.
El 25 de agosto de 1935, el Congreso aprobó una partida de $160,000.00 para construirlo. Al año siguiente el Presidente Franklin D. Roosevelt nombró la primera comisión pro monumento a Goethals, la cual quedó presidida por el General John Pershing. Le seguieron otras comisiones las cuales estuvieron integrados entre otros por: el ex-Presidente William Howard Taft, William Randolf Hearst, el general Douglas McArthur, Daniel y Harry F. Guggenheim.
Varios factores demoraron su realización.
Fueron muchas las sugerencias que se hicieron para perpetuar su memoria: se pensó cambiarle el nombre al Lago, Represa y Esclusa de Gatún por el de Goethals; otra propuesta fue de sustituirle el nombre al pueblo de Gamboa por el de héroe. El Presidente Roosevelt se inclinó por la colocación de un faro en uno de los cerros ubicados dentro de la Zona del Canal.
Hubo quienes sugirieron llamarle al Canal de Panamá, el "Canal de Goethals". Todas estas propuestas fueron rechazadas.
Al finalizar la Segunda Guerra Mundial, la Comisión pro Monumento a Goethals fue reactivada. El 4 de febrero de 1952, durante una reunión de la comisión celebrada en Washington, el Presidente de la misma Ralph Budd, presentó un diseño elaborado por Shaw, Metz & Dolio, firma de arquitectos e ingenieros de Chicago. En abril del mismo año fue aprobado por la Comisión, quien lo presentó al Presidente Harry Truman, siendo inmediatamente aceptado.
Los trabajos se iniciaron en 1953, bajo la dirección de la reconocida firma de arquitectos panameños Mendez & Sanders (representantes en Panamá de Shaw, Metz & Dolio) Su construcción fue confiada a la firma panameña Constructora Martinz, S.A. Se escogió el día 31 de marzo de 1954, para la inauguración del grandioso monumento. Ese día una impresionante multitud invadió los terrenos adyacentes al monumento.


Vista tomada el 31 de marzo de 1954, día de la inauguración del monumento a George W. Goethals.

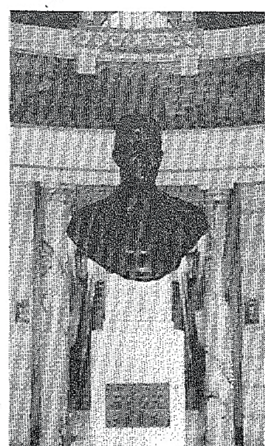
El orador principal fue Alexander Wiley, Senador por Wisconsin y Presidente del comité de Relaciones Exteriores del Senado. El monumento fue develado por el Dr. Thomas R. Goethals, hijo menor del General Goethals. Las bandas de las escuelas de Cristóbal y Balboa, tocaron los himnos de Panamá y los Estados Unidos de América. Fue un verdadero acontecimiento. Por Orden Ejecutiva del Presidente Eisenhower, fue declarado día feriado en la Zona del Canal.

BUSTO EN BRONCE DE FERDINAND DE LESSEPS

El 23 de noviembre de 1955 fue colocado en un nicho de la rotonda del edificio de la Administración del Canal, un busto en bronce del Visconde Ferdinand Marie de Lesseps, Presidente de la Compagnie Universelle du Canal Interoceanique, iniciadores de los trabajos del Canal de Panamá. El busto obra del artista Auguste Maillard, fue donado por la Compañía Universal del Canal de Suez, a la Compañía del Canal de Panamá. La presentación tuvo como marco el 150 aniversario del nacimiento de Lesseps, ocurrido el 19 de noviembre de 1805.
Agradeció el acto a nombre de la familia de Lesseps, el conde Pierre de Lesseps, bisnieto de Ferdinand y Director de la compañía del Canal de Suez.
"La colocación de este busto en esta casa es otro tributo que le están dando a mi bisabuelo y deseo expresar mi más profunda gratitud por este gesto tan noble.
Este día, aunque se que está dedicado a la memoria de Ferdinand de Lesseps, deseo también que sea el día de todos aquellos, panameños, franceses y americanos que han contribuído a la realización de esta gran empresa humana.
PIERRE DE LESSEPS

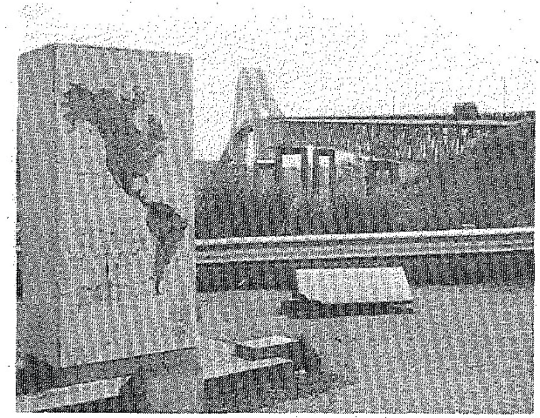
MONUMENTO A THEODORE ROOSEVELT

Para celebrar el centenario el Presidente Theodore Roosevelt, gran impulsor de los trabajos del Canal, fue colocado el 15 de noviembre de 1958, en el Centro de la rotonda del Edificio de la Administración, un busto, donado por el señor Edward A. Bacon, admirador de Roosevelt y Diputado Asistente al Secretario de la Armada de los Estados Unidos.
El busto en bronce, de doble tamaño natural, es obra del reconocido escultor norteamericano G.W. Derujinsky.
Otro de los eventos de ese día fue la plantación de un árbol como símbolo viviente a la memoria del visionario Presidente Roosevelt, quien fue además un gran naturalista y luchador por la conservación del medio ambiente. Aún se puede admirar el hermoso árbol, el cual se encuentra en el triángulo ubicado a la entrada de la "Avenida Estado de Barbados", antes "Avenida La Boca", frente al DENI de Balboa. La pequeña placa alusiva al evento desaparació del monolito.


Theodore Roosevelt.

MONUMENTO A MAURICE THATCHER

Maurice Thatcher llegó al Istmo en 1910. Fue nombrado Jefe del Departamento de Administración Civil del Canal, puesto que le valió el título extraoficial de "Primer Gobernador de la Zona del Canal".
Thatcher fue un verdadero amigo de los panameños. Autor del proyecto mediante el cual se creó el mundialmente famoso Laboratorio Conmemorativo Gorgas en Panamá, para la investigación de las enfermedades



En la vista se aprecia al "Puente de las Américas", antes "Puente Thatcher". A la izquierda el monolito totalmente abandonado.

tropicales. Fue también responsable del proyecto de Ley que estableció el "Ferry Thatcher". Construyó la carretera desde el Ferry hasta el pueblo de Arraiján, más tarde llamada "Carretera Thatcher". Los residentes de Arraiján en agradecimiento le obsequiaron un globo de tierra, el cual devolvió al pueblo para la creación de un parque infantil. Presionó al Congreso para que aprobara la Ley mediante la cual se le proporcionaba pensiones a los empleados no estadounidenses jubilados de la organización del Canal.

El 12 de octubre de 1962 fue inaugurado en presencia de Maurice Thatcher el nuevo puente sobre el Canal de Panamá. Se le bautizó "Puente Thatcher".

El nombre perpetuaba la memoria de quien había contribuído enormemente a la construcción del Canal y quien había mostrado especial cariño hacia los panameños. En 1981 se le cambió el nombre por el de "Puente de las Américas". Al monolito, que había sido dedicado a Thatcher le cambiaron el nombre a "Puente de las Américas". Hoy el monolito se encuentra en total abandono, como un homenaje a la decidia.

Somos de la opinión que Maurice Thatcher es merecedor de un monumento o de una placa en el área del Canal como reconocimiento a los grandes servicios prestados al Canal de Panamá.

MONUMENTO A JOHN F. STEVENS

Otro de los monumentos que adornan el Area Canalera es el dedicado al ingeniero John F. Stevens, quien jugó un papel decisivo en la construcción de la vía interoceánica.

Stevens arribó al Istmo el 25 de julio de 1905, vino a reemplazar a John F. Wallace en la posición de Ingeniero Jefe de los trabajos del canal. Cuando llegó las labores se encontraban paralizadas. La moral de los trabajadores decaída. Lo primero que hizo fue construir nuevos campamentos, alcantarillados, acueductos, escuelas, hospitales, iglesias, caminos, etc, instalaciones esenciales para el éxito de la obra. Renovó el ferrocarril y creó un novedoso sistema de abastecimiento. Brindó un fuerte apoyo al Dr. Williams Gorgas en su lucha contra la fiebre amarilla.

Al encargarse de los trabajos del canal, las autoridades norteamericanas no habían decidido aún si el Canal iba a ser a nivel o de esclusas. Los asesores nombrados por el Presidente Theodore Roosevelt se inclinaron por el sistema a nivel. Stevens recomendó el de esclusas, sistema que fue aprobado por el Senado el 21 de junio de 1906.

En 1907 fue nombrado Presidente del Canal Istmico ,posición que ocupó hasta el 31 de marzo del mismo año, en que presentó su renuncia irrevocable. Más de 10,000 trabajadores firmaron en vano una petición solicitándole que no abandonara los trabajos del canal. Su partida fue sentida en el Istmo donde era altamente apreciado. Se le brindó una apoteósica despedida. En abril, cuando le entregó a George Goethals los trabajos del Canal, estos se encontraban muy adelantados y sumamente organizados. Stevens fue uno de los ingenieros ferroviarios más famosos del mundo. En 1917 fue enviado por el gobierno norteamericano a Rusia a reorganizar el Ferrocarril Trans-Siberiano, donde permaneció hasta 1923.

Murió el 2 de junio de 1943 en Carolina del Norte a la edad de 90 años. Como reconocimiento a su gran labor desempeñada durante la construcción del Canal de Panamá, fue develado el 13 de octubre de 1962 un monumento a su memoria, ubicado en el Círculo Stevens al final del "Paseo El Prado", hoy "Avenida Roberto F. Chiari", frente al Correo de Balboa. El sencillo monumento de concreto de Portland consta de tres lados con las siguientes leyendas en los idiomas inglés y español:

"John F. Stevens 1853-1943
Ingeniero Ferroviario Internacional de grandes Logros"

"Comisión del Canal Istmico
Presidente 1907
Ingeniero Jefe 1905-1907
El Canal es su Monumento Goethals"

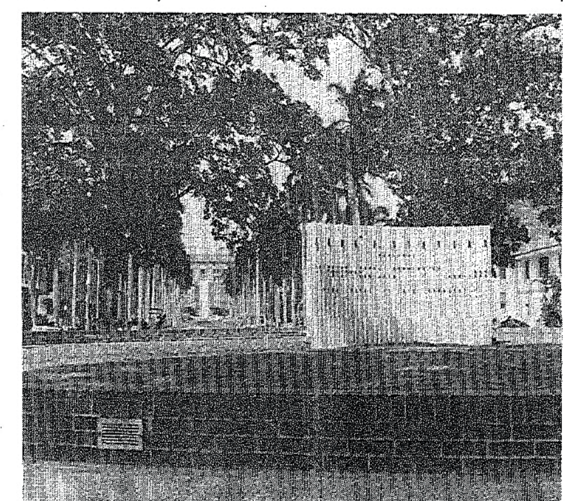
Otro de los monumentos dedicado a los Constructores del Canal de Panamá, es la roca ubicada frente al edificio de la Administración, colocada entre los años de 1965 y 1966. Clavada en la roca hay una placa de bronce con la siguiente leyenda:

Dedicado a los Constructores del Canal de Panamá.
"...Ustedes, los que aquí trabajan esmeradamente para llevar a feliz término esta gran empresa, perdurarán en la historia exactamente como perduran los soldados de pocos y muy contados ejércitos de mayor fama entre todas las naciones. Esta es una de las obras más grandes del mundo..."

Theodore Roosevelt,

En la base del monumento hay otra placa que dice:

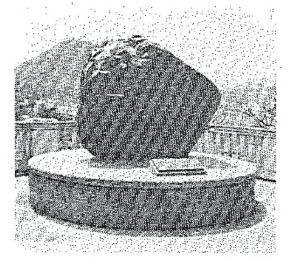
"Esta roca fue extraída del Canal de Panamá en la década de 1960, durante los trabajos de las nueve millas de ensanche del Corte Gaillard. Es un símbolo del esfuerzo colosal que las obras de esta gran vía intero[illegible] a exigió de sus construct[illegible] padores, llegados de los con[illegible] l mundo para rea-



Monumento a John F. Stevens. Al fondo, el Edificio de Administración del Canal de Panamá.

lizar en beneficio de la humanidad y por muchas generaciones, esta empresa histórica."

Como homenaje a los Trabajadores Antillanos, los residentes de Rainbow City y Silver City, erigieron sendas placas en honor de estos hombres que tanto contribuyeron a la construcción del Canal de Panamá.



Monumento dedicado a los Constructores del Canal de Panamá, ubicado frente al Edificio de la Administración del Canal.

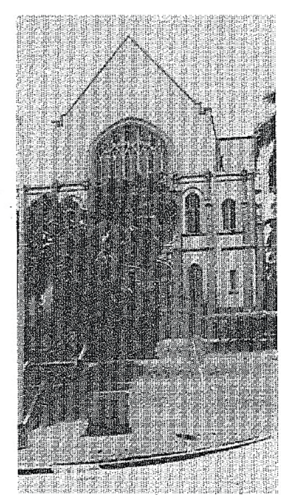
Otros monumentos dedicados a personas y hechos vinculados al Canal de Panamá.

RICHARD T. PERROTT

Frente a la Iglesia Unión de Balboa, en la esquina de la "Avenida Estado de Jamaica", antes Avenida Balboa y Calle San Pablo, ocurrió el 8 de febrero de 1920 un accidente de tránsito donde perdió la vida el señor Richard T. Perrott.

El camión conducido por Perrott perdió los frenos, precipitándose loma abajo donde se encontraban varios escolares. El conductor prefirió sacrificar su vida estrellándose contra la acera y así salvar las vidas de los niños.

Como agradecimiento a este noble gesto los estudiantes de las escuelas primarias de la zona del Canal, hicieron una recolecta para construirle un pequeño monumento, que fue colocado en el mismo sitio donde ocurrio el accidente.



Monumento a Richard T. Perrott. Al fondo se observa la hermosa Iglesia Unión de Balboa.

El 11 de noviembre de 1922, fue colocada en la escalinata frente al Edificio de la Administración del Canal una placa a la memoria de los residentes de la Zona del Canal muertos en la Primera Guerra Mundial.

La placa en bronce lleva la firma de A. H. Staf y fue confeccionada por la empresa Gorham Co. New York & Providence.

Lleva la siguiente inscripción:

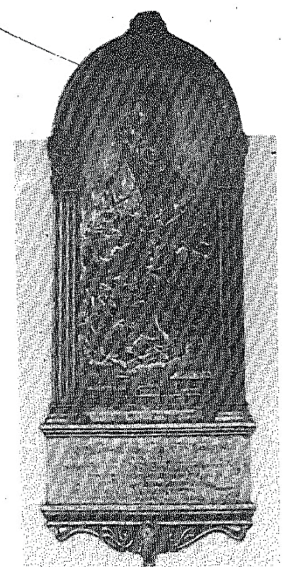
"A la memoria de aquellos de la Zona del Canal quienes dieron sus vidas al servicio de su país en la guerra Mundial.

Que quienes les sucedan cuiden que estos hombres no sean olvidados". 1917-1918

MONUMENTO A GEORGE McMASTERS TOTTEN

En la Estación del Ferrocarril en Balboa se encuentra una sobria pero elegante placa de bronce con el rostro en relieve del Ingeniero George McMasters Totten, iniciador de los trabajos del Ferrocarril de Panamá.

El diseño es obra de Sally James Farnham y fue confeccionada por la empresa Roman Bronze de Nueva York. Fue erigida en 1925 por las autoridades del Ferrocarril de Panamá.



Monumento a George M. Totten.

ESTATUA DE LA LIBERTAD

Frente al hoy cuartel de Bomberos, Segismundo Navarro, en Balboa, se encuentra una réplica de la "Estatua de la Libertad".

Fue donada al Consejo de Boy Scout de la Zona del Canal en mayo de 1951 por Morris Hoffman de la Ciudad de Kansas, instalada en el triángulo ubicado a la entrada de la "Avenida La Boca" hoy "Avenida Estado de Jamaica." Fue inaugurada el 30 de mayo de 1953.

Debido al ensanche de las avenidas, fue necesaria reubicarla en otro sitio, siendo trasladada en 1972 a su actual lugar.

GEORGE GREEN

En un hermoso paraje de la Carretera Madden se encuentra el Parque George Green, dedicado a la memoria de quien fue por más de 25 años Ingeniero Municipal de la Zona del Canal. (1921-1947). Fue un incansable luchador por la conservación del medio ambiente, en especial las áreas verdes. Varios de los jardines que aun se conservan en la Zona del Canal fueron obra suya.

El monumento, costeado por sus amigos, fue dedicado en enero de 1951. Diseñado por Leo C. Page y construído con rocas extraídas del Cerro Sosa.

MARY EUGENIE HIBBARD

En diciembre de 1951 fue develada en el Hospital Gorgas la placa en memoria de la señorita Mary Eugenie Hibbard. Esta notable dama tiene dos records de importancia: Fue la primera mujer contratada por la Comisión del Canal Istmico para prestar servicios en la Zona del Canal y la primera Enfermera Jefe del "Hospital Ancón", hoy "Hospital Gorgas".

La presentación de la placa fue hecha por la enfermera Jessie M. Murdock en representación del "Woman's Auxiliary of the New York Society of Panama Canal"

MONUMENTO A LOS VETERANOS DE LA GUERRA DE COREA

El 11 de noviembre de 1954, fue develada en la entrada de Paraíso, una placa en memoria de los jóvenes panameños muertos en la guerra de Corea y en honor de todos aquellos panameños y residentes de la Zona del Canal, que lucharon junto al Ejército de los Estados Unidos.

Fue erigida gracias al esfuerzo conjunto de los clubs "Pacific Army Mothers Club" y "Mutual Aid Club".

Creemos conveniente anotar, que la placa colocada en 1954 aparecían los nombres de tres panameños muertos en el conflicto: Sgt. José Molinar Ceballos, Pvt. Benjamin A. Franklin y Pvt. Gilbert D. Francis. Posteriormente la placa original fue sustituída, por otra más pequeña, ignoramos las razones, lo cierto es que se le añadieron los nombres: SPC 4 Irvind Clarke Jr. y PFC Sidney C. Squires.

La actual placa lleva la siguiente leyenda: "En memoria de aquellos panameños, quienes pagaron con el supremo sacrificio, por la democracia mientras servían en el Ejército de los Estados Unidos.

Sgt. José Molinar Ceballos
Pfc. Benjamín Franklin
Pfc. Gilbert D. Francis
Spc. Irvin Clarke Jr.
Pfc. Sidney C. Squires.

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MONUMENTO A ADALBERTO FASTLICH

En 1962 fue develado el monumento dedicado al reconocido joyero don Adalberto Fastlich, fundador y patrocinador en la Zona del Canal de la "Liga de Baseball Juvenil Fastlich", inaugurada en 1954. A raiz de su fallecimiento ocurrido el 30 de abril de 1961, los residentes de la Zona del Canal erigieron una placa de bronce con su efigie la cual fue colocada en el Campo de Juegos de Balboa

TRIANGULO SHALER HOY PLAZA ASCANIO AROSEMENA

El 21 de septiembre de 1960 en el Triángulo Shaler, hoy "Plaza Ascanio Arosemena" fue izada por primera vez el emblema patrio, ondearía junto a la bandera de los Estados Unidos de América. Al acto concurrierón altas autoridades panameñas y de la Zona del Canal. Posteriormente se construyó un monumento recordatorio a la ocasión. Llevaba el siguiente pensamiento de Simón Bolivar en los idiomas español e inglés:.

"Solo la Democracia es Suceptible de una Absoluta Libertad"

Mediante acuerdo No.1 de 3 de enero de 1980 se le cambió el nombre a "Plaza Ascanio Arosemena", en honor del mártir del 9 de enero. El pensamiento de Bolívar fue retirado del monumento y en su lugar se colocó "Plaza Ascanio Arosemena" y una placa con la siguiente leyenda:

"La patria es una indivisible, eterna. Es la sangre de Ascanio Arosemena, en la Bandera".

Otro de los monumentos dedicados a los Martires del 9 de Enero de 1964, es la placa ubicada en los terrenos donde estuvo el famoso "Hotel Tívoli", frente a la hoy "Avenida de los Martires", antes "Avenida 4 de Julio."

BUSTO DE BALBOA

Frente al Colegio Secundario de Balboa se encuentra un busto de Vasco Núñez de Balboa, donado por la clase graduanda de 1965. El busto es obra del reconocido escultor panameño Carlos Arboleda. Fue develado por Daniel Alemán, Presidente de la clase graduanda de 1965.

MONUMENTO A SAM WHYTE

El 3 de septiembre de 1966, fue inaugurado en Pedro Miguel el "Parque Sam Whyte" y develada la placa en memoria del recordado lider cívico de origen antillano. En 1907, ingresó al cuerpo de Policia de la Zona del Canal jubilándose en 1945.

Whyte fue un incansable luchador en favor de las conquistas sociales y económicas de los trabajadores antillanos. Fundó en 1924 la Asociación de Empleados Antillanos del Canal de Panamá. En 1944 fue condecorado con la Orden del Imperio Británico. Se retiró a Jamaica donde murió en 1955.

El Parque que lleva su nombre es también un monumento a los miles de antillanos que trabajaron en la construcción del Canal.

En la rotonda del Edificio de la Administración del Canal hay dos placas erigidas por la Sociedad Americana de Ingenieros Civiles y dedicadas al Canal de Panamá. La primera fue colocada en 1955, declarándolo "Una de las Siete Maravillas de la Ingeniería Civil Moderna de los Estados Unidos. La otra dedicada el 8 de noviembre de 1984, designando al Canal de Panamá, "Sitio Histórico Internacional de la Ingenieria Civil."

CAPT. JOHN CONSTANTINE

En el elegante edificio, sede de las oficinas de los "Pilotos del Canal de Panamá", ubicado en la "Avenida Estado de Jamaica" se encuentran dos monumentos dedicados a la memoria del Capitán John Constantine: un busto de mármol blanco colocado en el balcón y una placa sobre una sobria base, también de mármol blanco, situada a la entrada del edificio y que lleva la siguiente inscripción:

"Capt. John Constantine
(NIKTAE A MAYPAKHE)
Primer Piloto del Canal de Panamá
Nació, Kassos, Grecia
1849-1930

En 1882, Constantine inició labores con la Compañía del Canal Francés, donde permaneció hasta el año 1887, cuando fue contratado por la Pacific Mail Steamship Company. En 1905 entró a trabajar con la Comisión del Canal Istmico. Prestó servicios en el ferrocarril de Panamá. Fue el primer piloto nombrado en el Canal de Panamá. Estuvo al mando del SS Ancon, vapor que realizó la primera travesía oficial por el Canal de Panamá el 15 de agosto de 1914.

Murió el 6 de abril de 1930, sus restos reposan en el Cementerio de Mount Hope.

VICTORIANO LORENZO

El 1ro de octubre de 1981 la Quinta Compañía de Infantería -Policia Militar de Panamá con sede en Fuerte Amador le dedicó un busto a la memoria de Victoriano Lorenzo. Se encuentra ubicado a la entrada de las instalaciones de la Brigada que lleva su nombre.

MAUSOLEO DEL GENERAL OMAR TORRIJOS HERRERA

El 29 de julio de 1983 para conmemorar el segundo aniversario del fallecimiento del General de División Omar Torrijos Herrera, sus restos fueron trasladados del "Cementerio Amador" al Mausoleo erigido en "Fuerte Amador" frente a las instalaciones de la Brigada Victoriano Lorenzo. Fue inaugurado oficialmente el 31 de julio de 1983.

El Mausoleo es obra del renombrado escultor panameño Carlos Arboleda.

AVENIDAS

Desde la entrada en vigencia de los Tratados Torrijos - Carter, el Consejo Municipal de Panamá ha procedido a cambiarle los nombres a ciertas calles y avenidas ubicadas dentro del Area Canalera.

Se han erigido sendas placas conmemorativas a la ocasión. A continuación las más importantes:

Mediante Acuerdo No.8 de 10 de marzo de 1981, el Consejo Municipal designó a la "Avenida El Prado" ubicada en Balboa con el nombre de "Avenida Roberto F. Chiari" en memoria del ilustre Presidente panameño intimamente vinculado a los hechos del 9 de enero de 1964.

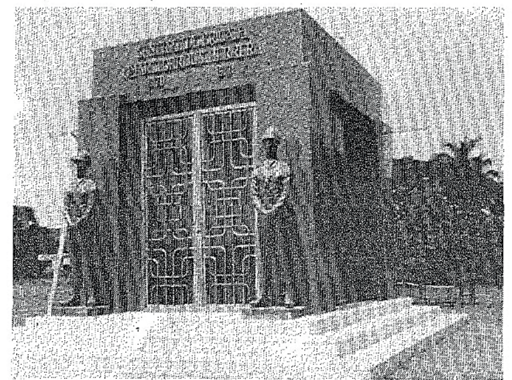
El 19 de abril de 1983 fueron dedicadas dos avenidas: La "Avenida Balboa" del Corregimiento de Ancón fue designada "Avenida Estado de Jamaica (Acuerdo No. 28). La "Avenida La Boca" del Corregimiento de Ancón fue designada con el nombre de "Avenida Estado de Barbados". (acuerdo 29)

Para conmemorar la histórica visita de su Santidad Juan Pablo II el 5 de marzo de 1983, le fue dedicada la nueva vía que va desde Curundu hasta El Dorado. La placa lleva la siguiente reseña: "Administración de Ricardo de la Espriella T., Presidente de la República.

Héctor I. Ortega C. Ministro de Obras Públicas, Panamá julio 1983.

Mediante acuerdo No.28 de 1 de octubre de 1985 se designó a la "Avenida Gaillard", con el nombre de Avenida General Omar Torrijos Herrera.

Recientemente el sitio conocido como "Diablo Heights" lo designaron "Altos de Jesús."



En la gráfica se aprecia el Mausoleo tal como fue ideado por el escultor Arboleda. Posteriormente la posición de los soldados de bronce y algunos otros detalles fueron cambiados.

MONUMENTO A RODNEY CAREW

Como homenaje al mejor pelotero panameño de todos los tiempos el Instituto Nacional de Deportes le dedicó el Campo Infantil de Baseball de Pedro Miguel.

La placa colocada para la ocación lleva la siguiente leyenda:

"A
Rodney Carew
Le dedica el INDE este Estadio Infantil, donde se inició como pelotero esta gloria del deporte panameño.
Panamá, Octubre de 1985.